Supreme Court, U.S.
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No. _____
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In The

Supreme Court of the United States

ERIC KUNG-SHOU HO,

Petitioner,

v.

UNITED STATES OF AMERICA,

Respondent.

On Petition For A Writ Of Certiorari To The United States Court Of Appeals For The Fifth Circuit

PETITION FOR A WRIT OF CERTIORARI

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QUESTIONS PRESENTED

Whether the court of appeals erred by holding that the Clean Air Act's preclusion and exclusivity provision, 42 U.S.C. § 7607(b)(1), foreclosed considering the validity of a 1990 EPA regulation that broadly amended the term "facility" to include buildings that had once been subject to the agency's jurisdiction, even when their current use no longer substantially affected interstate commerce, when the defendant had properly raised an *as applied* Commerce Clause challenge?

Whether the court of appeals erred by holding that *de minimus* or potential local pollution activities could be aggregated with unconnected activities to meet the required substantial effect on interstate commerce nexus to defeat a properly raised *as applied* Commerce Clause challenge to a federal Clean Air Act prosecution?

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PETITION FOR A WRIT OF CERTIORARI

Eric Kung-Shou Ho respectfully petitions for a writ of certiorari to issue to review the judgment of the United States Court of Appeals for the Fifth Circuit.

OPINIONS BELOW

The opinion of the court of appeals (App., *infra,* 1a-44a) is reported at 311 F.3d 589.

JURISDICTION

The judgment of the court of appeals was entered on October 31, 2002. A timely filed petition for rehearing was denied on December 4, 2002 (App., *infra,* 45b). The jurisdiction of this Court is invoked under 28 U.S.C. § 1254(1).

CONSTITUTIONAL PROVISIONS, STATUTES, AND REGULATORY PROVISIONS INVOLVED

Petitioner was convicted of knowingly failing to report the intended removal of asbestos in the course of renovating an abandoned hospital building and violating work practice standards published by the Environmental Protective Agency (EPA). The court of appeals' decision and the issues presented by this petition involve the validity, application, and relationship of numerous constitutional, statutory, and regulatory provisions. The full text of the pertinent parts of the provisions involved are reproduced in Appendix C. Because the statutes, regulations, and related material are lengthy, only the citations

and a brief description of each is included here, pursuant to the provisions of Rule 14(1)(f) of the Supreme Court Rules. The relevant provisions follow.

Constitutional Provisions:

1. The Due Process Clause of the Fifth Amendment to the Constitution of the United States.

2. Art. I, Section 8, Clause 3 of the Constitution of the United States (the Commerce Clause).

Statutes:

1. Section 112(b) of the Clean Air Act, 42 U.S.C. § 7412(b), which designates asbestos as a hazardous substance.

2. Section 112(c) of the Clean Air Act, 42 U.S.C. § 7412(c), which authorizes the Administrator of EPA to publish a list of major sources of air pollutants and to establish emission standards for each.

3. Section 112(d) of the Clean Air Act, 42 U.S.C. § 7412(d), which authorizes the Administrator of the EPA to publish regulations establishing emission standards for sources of hazardous pollutants or alternative management practices.

4. Section 112(h)(1) of the Clean Air Act, 42 U.S.C. § 7412(h)(1), which provides that the Administrator of EPA may establish work practice standards in lieu of emission standards under defined conditions.

5. Section 112(h)(2) of the Clean Air Act, 42 U.S.C. § 7412(h)(2), which defines the circumstances under which the Administrator of EPA may promulgate work standards in lieu of emission standards.

6. Section 113(c) of the Clean Air Act, 42 U.S.C. § 7413(c), which imposes criminal penalties for knowingly violating emission or work practice standards or failing to make any notification required by the Clean Air Act or its implementing regulations.

7. Section 114(a) of the Clean Air Act, 42 U.S.C. § 7414(a), which authorizes the Administrator of EPA to require certain notices to be given.

Regulations:

1. Title 40, Code of Federal Regulations, Section 61.141, which defines the term "facility" to include any structure previously subject to the regulations, regardless of its present use.

2. Title 40, Code of Federal Regulations, Section 61.145, which defines which facilities come within the renovation regulations and specifies the work practice standards for asbestos removal.

3. Title 40, Code of Federal Regulations, Section 61.150, which prohibits the discharge of emissions and specifies disposal procedures for hazardous materials removed from a facility.

STATEMENT

This case raises an issue of first impression: Whether the court of appeals erred by holding that although petitioner had properly raised an *as applied* Commerce Clause challenge to being federally prosecuted under the Clean Air Act, his challenge (that the statutes and implementing regulations were being unconstitutionally applied to his conduct) was limited by a Clean Air Act preclusion and

exclusivity provision, 42 U.S.C. § 7607(b)(1), that foreclosed considering the validity of a 1990 Clean Air Act implementing regulation (40 C.F.R. § 61.141) that amended the term "facility" in a way to give the EPA current jurisdiction over buildings for which it once had jurisdiction, even if their current use no longer substantially affects interstate commerce.

In addition, the case raises a related issue: Whether the court of appeals erred by aggregating *de minimus* or potential episodes of local pollution (or asbestos abatement) with unconnected conduct to supply the requisite Commerce Clause nexus needed to withstand petitioner's *as applied* constitutional challenge concerning the conduct for which he was federally prosecuted.

This federal prosecution was based on clean up work done in late 1997 and early 1998 by unskilled migrant laborers inside a long-vacant and dilapidated former hospital building in Houston, Texas. During a short part of the cleanup, workers scraped asbestos-containing fireproofing from the building's beams. When petitioner, a naturalized citizen, bought this property in 1998 and learned that the building had some asbestos-containing materials, he didn't know what use could be made of it until after the extensive trash and debris were removed. So, petitioner asked a handyman that he used in the past to assemble a cleaning crew that would remove trash, fallen sheetrock, and debris from the building. In turn, the handyman recruited, supervised, and paid several Mexican nationals to do this work. Petitioner, in turn, reimbursed him for the wages and the other expenses incurred during the clean up.

By early Spring 1998, this work had unfortunately moved beyond removing trash and debris, when the workers began to scrape asbestos from the structural beams, putting the scraped material inside plastic bags kept within the building. While this improper conduct was happening, a City of Houston building inspector discovered it and issued a stop-work order. About this time, the handyman was hospitalized; subsequently, petitioner hired another handyman to transport the workmen and monitor their work. As before, they put the scraped asbestos in bags that remained within the building for later disposal.

When the work was virtually completed, the second handyman caused an explosion by backing a truck into a gas pipe located outside the building, injuring himself and a few workers. This led state and federal agencies to investigate what had happened. Subsequently, the Texas Department of Health and the Occupational Safety and Health Administration filed administrative actions against petitioner, while the EPA sought criminal charges. When the federal criminal investigation was pending, an Administrative Law Judge assessed over $1 million in penalties against petitioner for the conduct that was later prosecuted criminally. A federal grand jury indicted petitioner with violating the reporting and work practice standards required by the Clean Air Act regulations, and other charges, including violations of 18 U.S.C. § 371 (Conspiracy), 18 U.S.C. § 1001 (False Statements), 42 U.S.C. § 9603(b)(3) (CERCLA), and 42 U.S.C. § 7413(c)(5)(A) (the Clean Air Act's knowing endangerment provision).

A jury found petitioner guilty of two Clean Air Act violations – the EPA's reporting and work practice standards. As for the other charges, they were dismissed by the district court or petitioner was acquitted by the jury.

Petitioner was sentenced to two months community confinement, six months home detention, and a $20,000 fine. The district judge largely rejected the government's objections to the application of the contested Sentencing Guideline provisions and his written findings in the Judgment and Sentence detailed that the government didn't establish, even by a preponderance, that asbestos was released into the environment.

Throughout this case, petitioner made an *as applied* challenge to the validity of EPA regulations upon which the government's case necessarily rested (including the validity of the amended regulation that expanded in perpetuity the agency's jurisdiction to all facilities ever used at some time in commerce), arguing that the limits of the Commerce Clause forbade federally prosecuting him under the Clean Air Act for localized conduct that was beyond the government's Commerce Clause power. Petitioner's *as applied* constitutional challenge was based on the inadequacy of the requisite Commerce Clause nexus to support *federal* Clean Air Act charges because the local clean up activities at the abandoned facility didn't impact the ambient air, nor did they substantially affect interstate commerce.

In contrast, the government repeatedly adjusted its responses to petitioner's arguments. During pretrial hearings on motions challenging this federal prosecution, the government first argued that federal jurisdiction in the case wholly depended on proof that friable asbestos was released into the ambient air. Later, it claimed that although the term "ambient air" as used in the Clean Air Act ordinarily means outside air, under the NESHAP (National Emission Standards for Hazardous Air Pollutants) the term takes on the dictionary meaning, which

includes inside air. Still later, the government claimed that the work practice standards are a substitute for emission standards, so it wasn't required to prove that asbestos was emitted into the ambient air. In its Reply Brief on appeal, and for the first time in the case, the government presented its novel aggregation argument that it had proved a substantial effect on interstate commerce because of petitioner's use of non-resident unskilled workers to remove the asbestos and that this conduct, if not federally prosecuted, would harm the ability of legitimate asbestos companies to compete. Unfortunately, the court of appeals accepted the government's belated new theory and supplied only footnote treatment in rejecting petitioner's arguments that the government shouldn't be allowed to untimely raise such novel arguments on appeal, writing: "[i]t is true that the government defended the asbestos work practice standard in the district court based primarily on the effects of interstate pollution[,] [yet] . . . the record adequately supports the government's theory urged on appeal, and we may affirm for any reason supported by the record." *United States v. Ho*, 311 F.3d 589, 602 n. 12 (5th Cir. 2002) (internal citation omitted). In another footnote, the court of appeals said that petitioner had an underlying commercial purpose in buying and cleaning up the building, despite contrary evidence in the record (which was not noted).

As concerns the use of the building at issue, the court of appeals failed to properly evaluate and apply *Jones v. United States*, 529 U.S. 848, 120 S.Ct. 1904 (2000), which holds that a building's *present* use must first be evaluated before next determining whether that use substantially affects interstate commerce. Moreover, the court of appeals didn't properly evaluate and apply other recent Commerce

Clause precedent that warns against aggregating remote or negligible effects on commerce to reach the requisite nexus when doing so would push the reach of the Commerce Clause beyond its logical limits – and particularly as to statutes for which Congress hadn't expressed an intent to change the balance between state and federal powers.

REASONS FOR GRANTING THE PETITION

The Court of Appeals Erred by Holding That an *As Applied* Commerce Clause Challenge Could Not Reach the Issue of Whether an Implementing Regulation Was Invalid and Being Unlawfully Applied

The court of appeals erred by interpreting the Clean Air Act's preclusion and exclusivity provisions that appear in Section 307(b)(1), 42 U.S.C. § 7607(b)(1), as foreclosing petitioner's *as applied* constitutional challenge to being *federally* prosecuted under the Clean Air Act from reaching a core issue as to whether an implementing agency regulation upon which the prosecution depended was invalid and improperly applied to this localized conduct. This error prevented petitioner from showing how the prosecution was tied to an invalid 1990 EPA rule-making that improperly enlarged the definition of "facility" and effectively expanded the agency's jurisdiction over all buildings if they had ever been used in interstate commerce, even when they no longer were being used in, or otherwise substantially affected, interstate commerce. *United States v. Ho*, 311 F.3d at 607.

This decision should be reviewed because even if a statute requires challenges to an agency's rule-making to

be filed within a narrow time frame and in a specific forum, an *as applied* constitutional challenge presents fundamental due process considerations that protect defendants from being convicted under suspect laws and regulations. As a general rule, due process is violated whenever a practice or rule offends some principle of justice that is so rooted in the traditions and conscience of our people as to be ranked as fundamental. Fundamental principles of fair play and due process are offended when a defendant is held not to have a right to challenge an invalid law that is being used to criminally punish him or her. In *Adamo Wrecking Co. v. United States*, 434 U.S. 275, 98 S.Ct. 566 (1978), the Court recognized that a criminal defendant's untimely challenge to the validity of a regulation upon which a prosecution was based had to be permitted in some narrow circumstances, despite the very preclusion and exclusivity provisions that are at issue in this case.

Although the court of appeals correctly noted in its opinion below, 311 F.3d at 607, that *Adamo Wrecking Co.*, "specifically forbade the lower courts, on remand, from considering whether the agency had 'complied with appropriate procedures in promulgating the regulation . . . [or] any of the other familiar inquiries which arise in the course of an administrative review proceeding,'" it didn't consider how the Clean Air Act's preclusion and exclusivity provisions affected this *as applied* constitutional challenge. A brief review of the uncontested facts shows why applying the preclusion provisions of the Clean Air Act was impermissible (in this case). Years before petitioner bought the property and engaged in the conduct that led to this case, the EPA expanded the definition of the term "facility" for purposes of the Clean Air Act to include "[a]ny

structure, installation or building that was previously subject to this subpart . . . , regardless of its current use or function." 40 C.F.R. § 61.141. At the time when the implementing regulation was broadly amended, and notwithstanding the preclusion and exclusivity provisions of 42 U.S.C. § 7607(b)(1), petitioner, like most citizens, was not in a position to appreciate or timely contest the EPA's failure to properly promulgate its amended regulation. "The 30-day limitation on judicial review . . . afford[s] precariously little time for many affected persons. . . . It also is totally unrealistic to assume that more than a fraction of the persons . . . affected by a regulation . . . would have knowledge of its promulgation or familiarity with or access to the Federal Register." *Adamo*, 98 S.Ct. at 575-76 (Powell, J., concurring). *See also United States v. Alexander*, 938 F.2d 942, 947 (9th Cir. 1991) (vacating conviction for transporting salmon roe in interstate commerce) ("The image of these two defendants driving their beat-up Dodge station wagon to the Board of Fisheries to argue that a small section of the regulations is inconsistent with an obscure phrase in a massive federal statute is a bit incongruous; they are fisherman, not legal scholars. Their only meaningful opportunity to challenge the regulations was at their trial.").

As petitioner has contended throughout this case, the current definition of "facility" was introduced in a Final Rule five days after the major statutory revisions embodied in the Clean Air Act Amendments of 1990, Pub. L. 101-549, took effect. 55 Fed. Reg. 48406. Before the Final Rule was issued, the EPA published a "Notice of proposed rule revision," indicating that it intended to amend the asbestos NESHAP by making clarifying revisions to several definitions and provisions. 54 Fed. Reg. 912. Although the

agency stated that it was revising the definition of facility and supplied the revised definition, the Notice didn't include the problematic language that later appeared without warning, i.e., "[a]ny . . . building . . . previously subject to this subpart is not excluded, regardless of its current use or function." Instead, the Notice only indicated that "[t]he definition of 'Facility' is modified by adding the terms 'residential,' 'public,' 'ships,' and 'active and inactive disposal sites . . . .'" *Id.* at 921-22. As such, the proposed revision didn't properly alert the regulated community about how the EPA would subsequently expand the definition; therefore, the agency violated the fair notice requirement of 5 U.S.C. § 553.

As the Court has previously warned, when, as here, a regulation is not promulgated in compliance with the Administrative Procedures Act, it is ordinarily not "afforded the 'force and effect of law.'" *Chrysler v. Brown,* 441 U.S. 281, 313, 99 S.Ct. 1705 (1979) (*citing Morton v. Ruiz,* 415 U.S. 199, 94 S.Ct. 1055 (1974)). In balancing the tension between granting full effect to a rule designed to ease agency and judicial administration, such as 42 U.S.C. § 7607(b)(1), with a criminal defendant's constitutional right not to be convicted under an invalid law, constitutional due process protections must prevail at least when, as here, the issue has been timely raised and supported. Moreover, the balancing test must weigh heavily in favor of a criminal defendant's constitutional rights when, as here, "an administrative interpretation of a statute invokes the outer limits of Congress' power," since the Court, in such a situation, "expect[s] a clear indication that Congress intended that result . . . ." *Solid Waste Agency of Northern Cook County v. United States Army Corps of Eng'rs,* 531 U.S. 159, 121 S.Ct. 675, 681-83 (2001) (*citing*

Edward J. DeBartolo Corp. v. Florida Gulf Coast Building & Constr. Trades Council, 485 U.S. 568, 575, 108 S.Ct. 1392 (1988)).

The Conduct For Which Petitioner Was Convicted Did Not Substantially Affect Interstate Commerce

Petitioner maintains that his federal convictions cannot stand because his conduct did not substantially affect interstate commerce and that, as applied to the facts of this case, the interpretation of the statutes and regulations under which he was convicted violates Art. I, Section 8, Clause 3 of the Constitution of the United States. In the leading cases of *United States v. Morrison,* 529 U.S. 598, 1201 S.Ct. 740 (2000), and *United States v. Lopez,* 514 U.S. 549, 115 S.Ct. 1624 (1995), this Court examined the outer limits of federal jurisdiction under the modern interpretation of the Commerce Clause; these cases limit federal criminal jurisdiction to activities that involve real and substantial federal interests.

The court of appeals observed that the government acknowledges that petitioner's conviction can only be sustained under the "substantial effect on interstate commerce" prong required by *Lopez* and *Morrison*. (App., *infra*, 24-a). "The government does not seriously contend that Ho's isolated violation of the work practice standard at a single renovation site could, by itself, have a substantial effect on interstate commerce." (App., *infra*, 25-a). The court of appeals, however, misapplied *Morrison* and *Lopez* by aggregating petitioner's conduct with unrelated, hypothetical activities that had attenuated support in the record, and on a theory that wasn't timely argued or presented to the district court. Moreover, as previously

explained, the court of appeals misapplied the holding in *Jones v. United States,* 529 U.S. 848, 120 S.Ct. 1904 (2000), by finding there was a "commercial use" in petitioner's conduct that permitted the aggregation necessary to uphold the convictions.

The court of appeals' ruling, if allowed, would mean that most renovation projects fall within the ambit of federal criminal jurisdiction, no matter how small or insignificant a project may be, and notwithstanding whether the project has *any* effect on interstate commerce. The unrestrained use of the aggregation concept in this case, even overlooking the government's tardy and unsupported asbestos removal industry argument, was likewise improper because Congress, in crafting the Clean Air Act, clearly expressed an intent to preserve the traditional roles that states had under their police powers for combating air pollution (and not to give the federal government the primary enforcement role). *See* 42 U.S.C. § 7401. Congress likewise recognized that, in the main, states would continue to bring most Clean Air Act enforcement proceedings. Its careful balancing of state and federal functions in crafting the Clean Air Act militates against the type of unrestrained aggregation used below that confused the line between state and federal jurisdiction which *Morrison, Jones,* and *Lopez* did so much to clarify. As this Court recognized in *Jones*, to hold otherwise would mean that "hardly a building . . . would fall outside the . . . statute's domain." 529 U.S. at 857. Accordingly, the former use of the building as a hospital simply couldn't be used to bootstrap a finding of a present Commerce Clause nexus.

Moreover, the court of appeals shouldn't have relied upon 42 U.S.C. § 7607(b)(1) to summarily reject petitioner's *as applied* constitutional challenge since the

government's new theory effectively pushed the reach of the Commerce Clause far beyond its logical limits because Congress hadn't clearly expressed an intent for the statute to be so construed. Any asbestos release that can arguably be inferred from the facts in this case was so limited as to be far beyond the Commerce Clause's ambit. Therefore, the court of appeals erred by not interpreting the EPA's regulations in a manner that would save them (and the Clean Air Act) from constitutional challenge, since a fundamental canon of statutory construction is that constitutional questions must be avoided if possible. A regulation that tests the Constitution's limits must be interpreted to avoid the issue, unless the underlying statute evinces an intent to test those limits. *Gregory v. Ashcroft,* 501 U.S. 453, 460, 111 S.Ct. 1392 (1988). *See also Presley v. Etowah County Comm'n*, 502 U.S. 491, 508, 112 S.Ct. 820, 831 (1992) (courts should so defer "only if Congress has not expressed its intent with respect to the question, and then only if the administrative interpretation is reasonable").

If petitioner's *as applied* constitutional challenge is examined within the *Solid Waste Agency* framework, as the court of appeals was asked (but failed) to do, the parallels between this case and *Solid Waste* are striking: (1) in the Clean Air Act (as in the Clean Water Act), Congress clearly expressed its intention that states retain the *primary* role of preventing pollution at its source; (2) in the Clean Air Act (unlike the Clean Water Act), Congress did *not* expressly limit federal agencies' powers to regulate conduct by including a jurisdictional element; instead, the Act focused on the emission of regulated pollutants into the ambient air; and, (3) while Congress authorized the promulgation of regulations to implement

its expressed intent, it didn't indicate that the EPA should promulgate and apply a regulation that allowed the agency to regulate, in perpetuity, a building if it ever had touched commerce (even if that happened long ago, the conduct is localized, and no ambient air pollution results), thereby altering the state-federal balance of power. *See* 121 S.Ct. at 681-83. In this case, as in *Solid Waste Agency,* because applying the statute and its regulations to the facts raises significant constitutional questions, a proper interpretation cannot permit the results reached by the court of appeals, and therefore, this Court's intervention is warranted.

CONCLUSION

For the foregoing reasons, the petitioner respectfully prays that its petition for a writ of certiorari be granted.

Respectfully submitted,

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February 28, 2003

APPENDIX A

311 F.3d 589

United States Court of Appeals,
Fifth Circuit.

UNITED STATES of America,
Plaintiff-Appellee-Cross-Appellant,
v.
Eric Kung-Shou HO,
Defendant-Appellant-Cross-Appellee.

No. 01-20460.

Oct. 31, 2002.
Rehearing Denied Dec. 4, 2002.

Robert Harris Oakley (argued), Greer S. Goldman, *John Smeltzer*, U.S. Dept. of Justice, Environment & Natural Resources Div., Washington, DC, *James Lee Turner*, Asst. U.S. Atty., Houston, TX, for U.S.

Michael E. Clark (argued), *Lee Hamel*, Hamel, Bowers & Clark, Houston, TX, *Samuel J. Buffone*, Ropes & Gray, Washington, DC, for Ho.

Appeals from the United States District Court for the Southern District of Texas.

Before DAVIS, JONES and SMITH, Circuit Judges.

JERRY E. SMITH, Circuit Judge:

Eric Ho appeals his conviction under the Clean Air Act ("CAA"), 42 U.S.C. § 7401 *et seq.*, and its regulations. The government cross-appeals the refusal to impose two sentencing enhancements. We affirm the conviction but vacate the sentence and remand for re-sentencing.

I.

Ho is a naturalized citizen who emigrated to Houston from the Republic of China in the 1970's. He owns and operates a produce supply company, Houston Fruitland, and a trucking company, Ho Ho Ho Express, Inc. He was convicted of failure to comply with asbestos work practice standards, 42 U.S.C. § 7413(c)(1), and failure to give notice of intent to remove asbestos, 42 U.S.C. § 7413(c)(2)(B).

A.

In October 1997, Ho entered negotiations to purchase the abandoned Alief General Hospital and Professional Building in Houston. During negotiations, the owner's agent told Ho's broker, who told Ho, that a 1994 environmental site assessment had revealed extensive asbestos in the hospital's fireproofing; that asbestos abatement could cost as much as $400,000; and that the owner was selling the property "as is." The owner and Ho ultimately agreed to a price of $700,000 instead of the initial asking price of $1.1 million. The contract included a Commercial Property Condition Statement to the effect that the property contained asbestos. Ho signed the statement, thereby acknowledging the presence of asbestos.

Ho soon contacted a project manager at Laughlin Environmental, a licensed asbestos abatement company, to obtain a bid for asbestos removal. The manager prepared a bid of $325,000 to remove and dispose of all asbestos in the two buildings. Ho quickly rejected the bid as too high, so the manager offered a second bid of cost plus ten percent; Ho never responded.

Instead, Ho initiated his own hospital renovation project in December 1997. He did not give advance notice

to the Environmental Protection Agency ("EPA") or the Texas Department of Health ("TDH") of his intent to renovate a building that would involve the removal and disposal of asbestos; this failure violated 40 C.F.R. § 61.145(b). Ho hired Manuel Escobedo, his sometimes handyman, to supervise the work, though Ho often visited the hospital site himself. Ho also hired Corson Tate to begin renovations in the professional building.

Escobedo, in turn, hired at least ten Mexican nationals – apparently in the United States illegally – to perform the renovation and asbestos removal work. Escobedo paid the workers by submitting their time sheets to Ho's accountant, receiving and cashing a check, and paying the workers in cash.

After removing sheetrock partitions and ceiling tiles from the first floor of the hospital, the workers, who had no experience or training in asbestos removal, began in mid-January 1998 to remove the asbestos-containing fireproofing. Neither Ho nor Escobedo told them that the fireproofing contained asbestos or that asbestos is a dangerous carcinogen, nor did they provide the workers with adequate safety equipment.

Against customary asbestos abatement practices, the workers used no water as they removed the fireproofing, but only scraped off the fireproofing, which produced large amounts of asbestos-containing dust inside the hospital. As the workers removed the fireproofing, they placed it in plastic bags. Although they generally left the bags open and inside the hospital, on one occasion a worker placed several bags in an outside dumpster, but Escobedo immediately instructed him to retrieve the bags and leave them inside the hospital. The hospital remained unsealed

throughout, with several open doors and windows and a large hole in the second floor exterior wall. None of these practices complied with asbestos work practice standards. *See* 40 C.F.R. § 61.145.

On February 2, 1998, Tim Stewart, a building inspector for the City of Houston, visited the hospital to investigate a complaint of renovation work without a city permit. Stewart observed the workers as they removed the fireproofing with putty knives without water or adequate safety equipment. Stewart also noted that the hospital was unsealed. He therefore issued a stop-work order and placed a red tag on the main entrance to the hospital indicating that work could not proceed without a city building permit. The workers left shortly thereafter, and Tate delivered the stop-work order to Ho.

Ho then contacted an operations manager at Alamo Environmental, a licensed asbestos abatement company in San Antonio, for an estimate to remove the remaining asbestos-containing material. The manager met Ho at the hospital on February 10 and sent him an estimate of $159,876 on February 13. Ho decided not to hire Alamo Environmental but, instead, to renew his own renovation project.

To avoid the stop-work order and further inspections, Ho re-hired the Mexican workers and instructed them to work at night, asking one of the workers, Jaime Contreras, to supervise. (Escobedo had fallen ill shortly after the stop-work order was issued.) Ho also visited the hospital frequently and on a few occasions personally supervised the workers. The pace of the project soon dissatisfied Ho, however, so he began to offer the workers performance incentives to complete sections of the hospital. Ho also

hired Tate to provide supplies to the workers and monitor their hours; Ho and Tate reduced this agreement to a written contract.

The workers completed the asbestos removal on March 10, 1998. Ho told Tate to wash down the inside of the hospital using a water line outside the hospital. Unfortunately, the "water line" was in fact a pressurized gas line.

After Tate removed the cap on the line, he started his nearby van. The spark from the ignition and the open gas line caused an explosion. The explosion burned Tate, three workers, and the van and blew a hole in the exterior wall of the hospital.

As a result of the explosion, TDH inspectors Tim Hendrix and Gary Williams inspected the site on March 13, 1998. They found the hospital unsealed, with open windows and doors and, now, two holes in the exterior walls. Fireproofing dust covered floors and shelves, and the building contained roughly 100 open bags of fireproofing and sheetrock residue. Subsequent laboratory analysis of the fireproofing indicated two to twenty percent chrysolite asbestos; any material with more than one percent is subject to federal and state regulations. The inspectors noted several footprints leading from the hospital outdoors, though they could not determine conclusively whether the dust in the footprints was asbestos-containing fireproofing or harmless sheetrock residue.

Over the next few months, Hendrix tried, with little success, to get Ho to seal the hospital and complete the asbestos abatement. Ho initially had one of the Mexican workers place plywood over the hospital's doors and windows, though this measure did not adequately seal the

hospital. Ho also obtained multiple estimates for the remaining abatement project. He apparently did not want to pay the still-sizeable cost of abatement, though he finally relented after much importuning by Hendrix.

The Occupational Safety and Health Administration ("OSHA") ultimately initiated an administrative enforcement action against Ho and two of his companies, charging violations of the Occupational Safety and Health Act, 29 U.S.C. § 651 *et seq.*, and its regulations. An administrative law judge upheld the citations and assessed administrative penalties against Ho and his companies in excess of $1 million.[1]

B.

In October 2000, the grand jury issued a nine-count superseding indictment against Ho and Escobedo. Count 1 charged them with conspiracy to violate the CAA in violation of 18 U.S.C. § 371. Count 2 charged Ho with a failure to give notice of intent to renovate a facility involving the removal of asbestos material in violation of 42 U.S.C. § 7413(c)(2)(B). Count 3 charged Ho with failure to comply with asbestos work practice standards in violation of 42 U.S.C. § 7413(c)(1). Count 4 charged Ho with failure to notify the appropriate agency of a release of asbestos in a violation of 42 U.S.C. § 9603(b). Count 5 charged Ho with a knowing release of asbestos into the ambient air, which placed another person in imminent danger of death or serious bodily injury in violation of 42 U.S.C.

[1] The TDH initiated similar proceedings under state law. Ho settled by paying $44,000 in civil penalties.

§ 7413(c)(5)(A). Count 6 charged Ho with making a false and material statement to OSHA and the Department of Labor in violation of 18 U.S.C. § 1001. The remaining three counts charged Escobedo with various crimes.

C.

The district court dismissed count 5 after a pre-trial hearing. At the conclusion of the government's case at trial, the court dismissed Count 4 with prejudice and directed a verdict of not guilty on Count 1. The jury convicted Ho on counts 2 and 3 and acquitted him on count 6.

D.

In his presentence report, the probation officer recommended an offense level of 18. First, he grouped, as two or more acts connected by a common criminal objective or part of a common scheme or plan, the convictions for failure to give notice of intent to remove asbestos and failure to comply with asbestos work practice standards. U.S.S.G. § 3D1.2(b). Second, he began with a base offense level of 8. U.S.S.G. § 2Q1.2(a). Third, he recommended a six-level enhancement for repetitive discharge of asbestos into the environment. U.S.S.G. § 2Q1.2(b)(1)(A). Fourth, he recommended a four-level enhancement for Ho's role as an organizer or leader of an extensive criminal scheme. U.S.S.G. § 3B1.1(a). These enhancements resulted in a recommended total offense level of 18, for a sentencing range of 27-33 months.

The government objected to the PSR's failure to include an upward enhancement based on the workers' alleged status as "vulnerable victims." U.S.S.G. § 3A1.1(b).

Ho objected to the enhancements and requested a downward departure on several grounds.

At the sentencing hearing, the district court calculated a total offense level of 10. The court accepted the base offense level of 8. The court did not add the six-level enhancement for repetitive discharge of asbestos into the environment, because it concluded that the government had not proven discharge by a preponderance of the evidence. The court also declined to add the four-level enhancement, because it concluded that the criminal activity was not "otherwise extensive" under § 3B1.1(a), but the court added the two-level enhancement for leadership of a small criminal activity under § 3B1.1(c). The court rejected all other requests for enhancements or departures.

II.

Ho contends that the laws under which he was convicted exceed Congress's authority under the Commerce Clause, U.S. CONST. art. I, § 8, cl. 3. Guided by the recent landmark cases of *United States v. Lopez,* 514 U.S. 549, 115 S.Ct. 1624, 131 L.Ed.2d 626 (1995), and *United States v. Morrison,* 529 U.S. 598, 120 S.Ct. 1740, 146 L.Ed.2d 658 (2000), we disagree.

At the outset, we stress the limited holding of this opinion. We do not confront a facial challenge to the Clean Air Act, but only an as-applied challenge to the work practice standard provision, 42 U.S.C. § 7412(h), and the reporting provision, 42 U.S.C. § 7414(a), of the CAA and their implementing regulations, 40 C.F.R. § 61.145. We thus have neither occasion nor authority to rule on the constitutionality of other provisions of the CAA or other

implementing regulations, which we must leave for another day when they are properly presented.

We begin by reviewing the relevant sections of the CAA and their implementing regulations. Next, we examine some first principles of Commerce Clause jurisprudence. We then analyze the reasoning in *Lopez* and *Morrison*. Finally, we explain why, under this reasoning, Congress had the authority to enact the sections of the CAA that Ho challenges.

A.

Section 112 of the CAA, 42 U.S.C. § 7412, authorizes the Administrator of the EPA to publish a list of hazardous air pollutants and to establish emission standards for them. These standards are known as "national emission standards for hazardous air pollutants," or NESHAP's.

Section 112(b), 42 U.S.C. § 7412(b), establishes an initial statutory list of hazardous air pollutants, of which asbestos is one, and directs the EPA to update the list periodically. Section 112(c), 42 U.S.C. § 7412(c), directs the EPA to identify each "source category" that emits a particular hazardous air pollutant. Section 112(d), 42 U.S.C. § 7412(d), directs the agency to promulgate NESHAP's to regulate the emission of hazardous air pollutants from these source categories. These provisions are the primary means to regulate emissions of hazardous air pollutants under the CAA.

Section 112(h)(1), 42 U.S.C. § 7412(h)(1), however, authorizes the EPA to adopt work practice standards instead of emission standards "if it is not feasible in the judgment of the Administrator to prescribe or enforce an

emission standard for control of a hazardous air pollutant."[2] Because asbestos often is not "emitted through a conveyance designed and constructed to emit or capture [it]," 42 U.S.C. § 7412(h)(1)(A), but rather through building demolition and renovation sites, the EPA adopted a work practice standard for handling asbestos in these sites, 40 C.F.R. §§ 61.145, 61.150.[3] This work practice standard does not apply generally to any building containing any asbestos, but only to buildings containing certain specific kinds and large amounts of asbestos. 40 C.F.R. §§ 61.145(a), 61.150. The parties do not dispute that the hospital contained the regulated kind and amount of asbestos or, therefore, that the work practice standard covered the hospital.[4]

The asbestos work practice standard regulates, in minute detail, the handling of asbestos in building renovation sites. 40 C.F.R. § 61.145(c). For example, material containing asbestos must be wetted during removal, kept sufficiently wet after removal to prevent the release of asbestos fibers, and stored in leak-tight containers until properly disposed. A foreman or management-level officer,

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[2] "For purposes of this section, if it is not feasible in the judgment of the Administrator to prescribe or enforce an emission standard for control of a hazardous air pollutant or pollutants, the Administrator may, in lieu thereof, promulgate a . . . work practice . . . standard . . . which in the Administrator's judgment is consistent with the provisions of subsection (d) or (f) of this section." 42 U.S.C. § 7412(h)(1).

[3] The asbestos NESHAP also contains § 112(d) emission standards for source categories that emit asbestos. *See, e.g.*, 40 C.F.R. § 61.142.

[4] Ho, of course, disputes that the work practice standard can cover the hospital *constitutionally*, but that is a different question we address *infra* part II.D.

trained in complying with these work practice standards, must be present at any site before workers may handle material containing asbestos. We could give more details of the numerous requirements, but it is enough to say that Ho admits he did not comply with the asbestos work practice standard.

Section 114(a), 42 U.S.C. § 7414(a), also authorizes the EPA to adopt reporting requirements to ensure compliance with a work practice standard. Pursuant to § 114(a), the asbestos work practice standard therefore imposes an elaborate reporting requirement on owners or operators of a building renovation site. 40 C.F.R. § 61.145(b). The heart of this requirement is that the owner or operator must give the EPA timely notice (usually ten days) of intent to begin asbestos removal. Again, we could continue with the details of this requirement, but Ho admits that he did not give notice.

Section 113, 42 U.S.C. § 7413, contains administrative, civil, and criminal enforcement mechanisms for the asbestos work practice standard and the notice requirement. Ho was convicted under two of these criminal enforcement provisions. Section 113(c)(1), 42 U.S.C. § 7413(c)(1), imposes criminal penalties on "[a]ny person who knowingly violates any . . . requirement or prohibition of . . . section 7412 of this title, . . . including a requirement of any rule . . . promulgated or approved under such section[.]" Section 113(c)(2)(B), 42 U.S.C. § 7413(c)(2)(B), imposes criminal penalties on "[a]ny person who knowingly fails to notify or report as required under this chapter."

We now summarize this complicated statutory and regulatory framework before addressing the Commerce

Clause. The affirmative legal duties Ho violated – (1) failure to follow proper work practice standards while removing asbestos and (2) failure to give notice of intent to remove asbestos – appear in the asbestos work practice standard, 40 C.F.R. § 61.145. The EPA adopted the work practice standard under §§ 112(h) and 114(a) of the CAA, 42 U.S.C. §§ 7412(h), 7414(a). The government prosecuted Ho for these violations under § 113(c)(1), (c)(2)(B) of the CAA, 42 U.S.C. § 7413(c)(1), (c)(2)(B). Ho now challenges these sections as applied to him.

B.

As did the Court in *Lopez,* so too do "[w]e start with first principles." *Lopez,* 514 U.S. at 552, 115 S.Ct. 1624. The Constitution creates a federal government of limited and enumerated powers, *id.,* and in particular a Congress of limited and enumerated powers. The Article I Vesting Clause confirms this proposition, vesting in Congress "[a]ll legislative powers herein granted." U.S. Const. art. I, § 1. This clause necessarily implies that some legislative powers are not "herein granted," foremost among them "the police power, which the Founders denied the National Government and reposed in the states." *Morrison,* 529 U.S. at 618 and n. 8, 120 S.Ct. 1740.

"This constitutionally mandated division of authority 'was adopted by the Framers to ensure protection of our fundamental liberties. Just as the separation and independence of the coordinate branches of the Federal Government serve to prevent the accumulation of excessive power in any one branch, a healthy balance of power between the States and the Federal Government will reduce the risk of tyranny and abuse from either front.'"

Lopez, 514 U.S. at 552, 115 S.Ct. 1624 (quoting *Gregory v. Ashcroft,* 501 U.S. 452, 458, 111 S.Ct. 2395, 115 L.Ed.2d 410 (1991) (citations omitted)).

Among the legislative powers the Constitution *did* grant to Congress is the power "to regulate Commerce with foreign Nations, and among the several States, and with the Indian Tribes." Art. I, § 8, cl. 3. Though seldom used in the nineteenth century, the Commerce Clause [5] became the chief engine for federal regulatory and criminal statutes in the latter two-thirds of the twentieth century. *See Lopez,* 514 U.S. at 552-556, 115 S.Ct. 1624 (describing the doctrinal history of the Commerce Clause). The Court explained in *Lopez* that *NLRB v. Jones & Laughlin Steel Corp.,* 301 U.S. 1, 57 S.Ct. 615, 81 L.Ed. 893 (1937) (upholding the National Labor Relations Act), *United States v. Darby,* 312 U.S. 100, 61 S.Ct. 451, 85 L.Ed. 609 (1941) (upholding the Fair Labor Standards Act), and *Wickard v. Filburn,* 317 U.S. 111, 63 S.Ct. 82, 87 L.Ed. 122 (1942) (upholding the Agricultural Adjustment Act of 1938), "ushered in an era of Commerce Clause jurisprudence that greatly expanded the previously defined authority of Congress under that Clause." *Lopez,* 514 U.S. at 556, 115 S.Ct. 1624.

Yet, "even these modern-era precedents which have expanded congressional power under the Commerce Clause confirm that this power is subject to outer limits."

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[5] It would be more accurate to speak of the "Interstate Commerce Clause," because the phrase "Commerce Clause" wrongly ignores the distinction between interstate and intrastate commerce. *See Lopez,* 514 U.S. at 587 n. 2, 115 S.Ct. 1624 (Thomas, J., concurring). We defer to convention, however.

Id. at 556-57, 115 S.Ct. 1624. Indeed, even in *Jones & Laughlin Steel,* 301 U.S. at 37, 57 S.Ct. 615, the Court emphasized that the Commerce Clause "may not be extended so as to embrace effects upon interstate commerce so indirect and remote that to embrace them, in view of our complex society, would effectually obliterate the distinction between what is national and what is local and create a completely centralized government."

This alarming and dangerous prospect, and the concomitant need to identify judicially enforceable limits on the Commerce Clause, seem to have been a motivating force behind the Supreme Court's recent jurisprudence.[6] Without any judicially enforceable limits and with inevitable political pressures, the Commerce Clause all too easily would become the general police power denied to Congress by the Constitution.

Morrison and *Lopez* therefore reaffirm our longstanding duty to enforce the limits of the Commerce Clause. Naturally, "[d]ue respect for the decisions of a coordinate branch of Government demands that we invalidate a congressional enactment only upon a plain showing that Congress has exceeded its constitutional bounds." *Morrison,* 529 U.S. at 607, 120 S.Ct. 1740. At the same time, however, the constitutionality of any statute, including a statute enacted under the Commerce Clause, "is ultimately a judicial rather than a legislative question, and can be settled finally only by [the Supreme] Court," and

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[6] *See Morrison,* 529 U.S. at 615-18, 120 S.Ct. 1740; *Lopez,* 514 U.S. at 565-68, 115 S.Ct. 1624; *see also United States v. Bird,* 124 F.3d 667, 676-78 (5th Cir.1997) (explaining the need for a "limiting principle" in Commerce Clause jurisprudence).

initially by the lower federal courts. *Id.* at 614, 120 S.Ct. 1740.[7]

C.

The Supreme Court's Commerce Clause jurisprudence sometimes has yielded vague and uncertain legal standards. As the Court explained in *Lopez,* "[t]he Constitution mandates this uncertainty by withholding from Congress a plenary police power that would authorize enactment of every type of legislation." *Lopez,* 514 U.S. at 566, 115 S.Ct. 1624. Legal standards for the Commerce Clause "are not precise formulations, and in the nature of things they cannot be." *Id.* at 567, 115 S.Ct. 1624. In *Lopez* and *Morrison,* however, the Court helpfully clarified the legal standards to be applied in a constitutional challenge to a statute under the Commerce Clause.

In *Lopez,* the Court restated the "three broad categories of activity that Congress may regulate under its commerce power." *Id.* at 558, 115 S.Ct. 1624. "First, Congress may regulate the use of the channels of interstate commerce." *Id.* (citing *Heart of Atlanta Motel, Inc. v. United States,* 379 U.S. 241, 256-67, 85 S.Ct. 348, 13 L.Ed.2d 258 (1964); *United States v. Darby,* 312 U.S. 100, 114-15, 61 S.Ct. 451, 85 L.Ed. 609 (1941)). This category includes the regulation of highways, railroads, air routes, navigable rivers, and telecommunications networks. *See United States v. Robinson,* 119 F.3d 1205, 1210 (5th

[7] *See also Marbury v. Madison,* 5 U.S. (1 Cranch) 137, 177, 2 L.Ed. 60 (1803) ("It is emphatically the province and duty of the judicial department to say what the law is.").

Cir.1997). The category also "reaches the 'misuse' of the channels of interstate commerce." *Bird,* 124 F.3d at 673. For example, within this category Congress has regulated the interstate transport or shipment of stolen goods, 18 U.S.C. § 2314; kidnaped persons, 18 U.S.C. § 1201; prostitutes, 18 U.S.C. § 2421 and illegal lottery tickets, *The Lottery Case (Champion v. Ames),* 188 U.S. 321, 23 S.Ct. 321, 47 L.Ed. 492 (1903).

"Second, Congress is empowered to regulate and protect the instrumentalities of interstate commerce, even though the threat may come only from intrastate activities."[8] When Congress regulates within this category, it must "ensure that, in fact, a particular 'threat' – whether posed by an interstate or intrastate activity – actually threatens persons or things with a plain and clear nexus to interstate commerce." *Bird,* 124 F.3d at 674. Characteristic examples of regulation in this category include destruction of an aircraft, 18 U.S.C. § 32, and theft from interstate shipments, 18 U.S.C. § 659. *See Lopez,* 514 U.S. at 558, 115 S.Ct. 1624 (citing *Perez,* 402 U.S. at 150, 91 S.Ct. 1357).

"Finally, Congress' commerce authority includes the power to regulate those activities having a substantial relation to interstate commerce, i.e., those activities that substantially affect interstate commerce." *Id.* at 558-59, 115 S.Ct. 1624 (citing *Maryland v. Wirtz,* 392 U.S. 183, 196

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[8] *Lopez,* 514 U.S. at 558, 115 S.Ct. 1624 (citing *Perez v. United States,* 402 U.S. 146, 148-50, 91 S.Ct. 1357, 28 L.Ed.2d 686 (1971); *The Shreveport Rate Cases (Houston Ry. Co. v. United States),* 234 U.S. 342, 34 S.Ct. 833, 58 L.Ed. 1341 (1914); *Southern Ry. v. United States,* 222 U.S. 20, 32 S.Ct. 2, 56 L.Ed. 72 (1911)).

n. 27, 88 S.Ct. 2017, 20 L.Ed.2d 1020 (1968); *Jones & Laughlin Steel,* 301 U.S. at 36-38, 57 S.Ct. 615 (1937)). The Court acknowledged in *Lopez* that its "case law has not been clear whether an activity must 'affect' or 'substantially affect' interstate commerce in order to be within Congress' power to regulate it under the Commerce Clause." *Id.* at 559, 115 S.Ct. 1624. The Court firmly concluded, though, that "the proper test requires an analysis of whether the regulated activity 'substantially affects' interstate commerce." *Id.*

Thus, this third category is often known as the "substantial effect" test. Although it is the most expansive category – or perhaps because it is the most expansive – it has generated the most controversy and uncertainty.[9]

One fairly certain principle is that the substantial effect test allows Congress to regulate purely intrastate activities. The Supreme Court has "upheld a wide variety of congressional Acts regulating intrastate economic activity where [it has] concluded that the activity substantially affected interstate commerce." *Id.* The Court in *Lopez* did not purport to disturb the settled rule that "[w]here economic activity substantially affects interstate commerce, legislation regulating that activity will be sustained." *Id.* at 560, 115 S.Ct. 1624.

A regulation of intrastate commercial activity can satisfy the substantial effect test in two ways. First, it can

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[9] *Compare id.* at 584-602, 115 S.Ct. 1624 (Thomas, J., concurring) (arguing that the substantial effect test lacks a constitutional basis) *with id.* at 615-31, 115 S.Ct. 1624 (Breyer, J., dissenting) (arguing for a more generous application of the substantial effect test).

reach intrastate commercial activity that by itself substantially affects interstate commerce. *Jones & Laughlin Steel* is a case in point. A steel company challenged an order of the NLRB that it had engaged in unfair labor practices at a steel mill. *Jones & Laughlin,* 301 U.S. at 22, 57 S.Ct. 615. The company contended that the NLRB's order violated the Commerce Clause because it amounted to congressional regulation of a wholly intrastate economic activity. *Id.* at 40-41, 57 S.Ct. 615. The Court rejected this argument, because "the stoppage of those [steel manufacturing] operations by industrial strife would have a most serious effect upon interstate commerce. . . . It is obvious that it would be immediate and might be catastrophic." *Id.* at 41, 57 S.Ct. 615. Thus, the Court upheld the order as a valid regulation of intrastate commercial activity, i.e., labor relations at a steel mill, which alone substantially affects interstate commerce.

Second, the regulation can reach intrastate commercial activity that by itself is too trivial to have a substantial effect on interstate commerce but which, when aggregated with similar and related activity, can substantially affect interstate commerce. This rule has come to be known as the "aggregation" principle, which reached its zenith in *Wickard,* "perhaps the most far reaching example of Commerce Clause authority over intrastate activity." *Lopez,* 514 U.S. at 560, 115 S.Ct. 1624. The farmer in *Wickard* grew wheat on his small farm. *Wickard,* 317 U.S. at 114, 63 S.Ct. 82. Under the Agricultural Adjustment Act of 1938, he was entitled to a quota of about eleven acres of wheat, but he grew about twenty-three acres, which he used for seeding, feeding, selling, and home consumption. *Id.* at 114-15, 63 S.Ct. 82. The Secretary of Agriculture assessed a penalty against him for exceeding his quota. *Id.*

at 115, 63 S.Ct. 82. The Court upheld the penalty because, though the farmer's "own contribution to the demand for wheat may be trivial by itself . . . his contribution, taken together with that of many others similarly situated, is far from trivial." *Id.* at 127-28, 63 S.Ct. 82. *Wickard* thus stands at the head of "cases upholding regulations of activities that arise out of or are connected with a commercial transaction, which viewed in the aggregate, substantially affects interstate commerce." *Lopez,* 514 U.S. at 561, 115 S.Ct. 1624.

Whether and how Congress may apply the aggregation principle are controversial questions. The pitfalls are apparent. For example, any imaginable activity of mankind can affect the alertness, energy, and mood of human beings, which in turn can affect their productivity in the workplace, which when aggregated together could reduce national economic productivity. Such reasoning would eliminate any judicially enforceable limit on the Commerce Clause, thereby turning that clause into what it most certainly is not, a general police power. Thus, in *Lopez,* 514 U.S. at 564, 115 S.Ct. 1624, the Court expressly rejected such reasoning.

In fact, as we have observed, the need for some judicially enforceable limit on the aggregation principle seemed to motivate the analysis in *Lopez* and *Morrison.* The Court therefore has identified four "significant considerations" for Congress's power to invoke the aggregation principle to regulate wholly intrastate activities. *Morrison,* 529 U.S. at 609, 120 S.Ct. 1740.

The Court first identified these considerations in *Lopez,* which held that the Gun-Free School Zones Act of 1990, 18 U.S.C. § 922(q)(1)(A), which made it a federal

crime knowingly to possess a firearm in a school zone, exceeded Congress's authority under the Commerce Clause. The Court re-emphasized these considerations in *Morrison,* which held that the civil remedy provision of the Violence Against Women Act, 42 U.S.C. § 13981, which created a federal civil remedy for victims of sex-based violence, also exceeded Congress's authority under the Commerce Clause. We examine these four considerations with a view to the scope of the aggregation principle.

The first consideration is the economic or commercial nature of the regulated intrastate activity. In *Lopez,* the Court seemed to restrict the aggregation principle to economic activity, which did not include gun possession in a school zone. *Lopez,* 514 U.S. at 559-61, 115 S.Ct. 1624. *Morrison* clarified *Lopez* somewhat on this point, explaining that "[w]hile we need not adopt a categorical rule against aggregating the effects of any noneconomic activity in order to decide [*Morrison*], thus far in our Nation's history our cases have upheld Commerce Clause regulation of intrastate activity *only* where the activity is economic in nature," which sex-based violence most certainly is not. *Morrison,* 529 U.S. at 613, 120 S.Ct. 1740 (emphasis added). Thus, it remains an open question, as yet unsettled by the Supreme Court, whether the aggregation principle extends to non-economic activity.[10]

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[10] We recognize that *Bird* seems to contradict this conclusion. "After *Wickard* – and its reaffirmance in *Lopez* – there can be no question that Congress is able to regulate noncommercial, intrastate activity that substantially affects interstate commerce." *Bird,* 124 F.3d at 676. Yet, we decided *Bird* before the Supreme Court decided *Morrison.*

The second consideration is a jurisdictional element in the challenged statute that "might limit its reach to a discrete set of [regulated intrastate activities] that additionally have an explicit connection with or effect on interstate commerce." *Lopez,* 514 U.S. at 562, 115 S.Ct. 1624. A jurisdictional element may ensure that a statute, as applied, substantially affects interstate commerce.[11]

To be sure, though, *Morrison* clarified that a jurisdictional element is not sufficient to establish the constitutionality of a challenged statute: "Such an element *may* establish that the enactment is in pursuance of Congress' regulation of interstate commerce." *Morrison,* 529 U.S. at 612, 120 S.Ct. 1740 (emphasis added). We therefore have held that a "jurisdictional element is not alone sufficient to render [a challenged statute] constitutional. That argument . . . has no principled limit." *United States v. Kallestad,* 236 F.3d 225, 229 (5th Cir.2000).

Thus, Congress may not add the words "interstate commerce" to every statute and expect the courts meekly to comply. In any event, neither § 922(q)(1)(A) nor § 13981 contains a jurisdictional element to restrict its scope or justify use of the aggregation principle.

The third consideration is congressional findings regarding the regulated intrastate activity's substantial effects on interstate commerce. This consideration is the least important when determining whether Congress may

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[11] A jurisdictional element also may establish that a statute comes within the first or second category of Commerce Clause regulation identified in *Lopez. Morrison,* 529 at 613 n. 5, 120 S.Ct. 1740.

invoke the aggregation principle. In *Lopez,* 514 U.S. at 557 n. 2, 115 S.Ct. 1624, the Court noted that "[s]imply because Congress may conclude that a particular activity substantially affects interstate commerce does not necessarily make it so." (Citation omitted.) By the same token, the Court noted that "Congress normally is not required to make formal findings as to the substantial burdens that an activity has on interstate commerce." *Id.* at 562, 115 S.Ct. 1624.

In other words, congressional findings are neither necessary nor sufficient for Congress to invoke the aggregation principle, but merely are helpful insofar as they aid the courts in identifying a substantial effect on commerce "even though no such substantial effect [is] visible to the naked eye." *Id.* at 563, 115 S.Ct. 1624. Although § 922(q)(1)(A) contained no findings, the Court's deeds in *Morrison* backed up its words in *Lopez,* because the Court rejected reams of findings collected after years of legislative inquiry as insufficient to support § 13981. *Morrison,* 529 U.S. at 614-15, 120 S.Ct. 1740.

The fourth and final consideration is the degree of attenuation between the regulated intrastate activity and the substantial effect on interstate commerce. This consideration especially is designed to impose some judicially enforceable limit on the aggregation principle and to prevent the Commerce Clause from becoming a general police power.

In *Lopez,* the government argued that discrete instances of gun possession in a school zone, when aggregated, increased the costs of crime and reduced national productivity. *Lopez,* 514 U.S. at 563-64, 115 S.Ct. 1624.

The Court rejected the cost-of-crime rationale for aggregation, because it would allow Congress to regulate "all activities that might lead to violent crime, regardless of how tenuously they relate to interstate commerce." *Id.* at 564, 115 S.Ct. 1624. Likewise, the Court rejected the national productivity rationale, because it would allow Congress to regulate any activity related to economic productivity including, for example, "marriage, divorce, and child custody." *Id.* Such rationales left the Court "hard pressed to posit any activity by an individual that Congress is without power to regulate." *Id.*

In *Morrison,* the Court rejected similar arguments about the alleged substantial effects of sex-based violence, when aggregated, on employment, production, transit, and consumption. *Morrison,* 529 U.S. at 614-16, 120 S.Ct. 1740. If Congress could regulate sex-based violence because of these effects on interstate commerce, it could regulate all violence, because sex-based violence, as a subset of all violence, certainly has a smaller effect than does all violence. *Id.* at 615, 120 S.Ct. 1740. This kind of attenuated reasoning is "unworkable if we are to maintain the Constitution's enumeration of powers." *Id.* at 615, 120 S.Ct. 1740.

Lopez and *Morrison,* therefore, foreclose congressional use of the aggregation principle where the alleged relationship between the regulated intrastate activity and the substantial effect on interstate commerce is so attenuated that it would justify all regulation, i.e., would turn the Commerce Clause into a general police power. To do so would erase "the distinction between what is truly national and what is truly local." *Lopez,* 514 U.S. at 567-68, 115 S.Ct. 1624 (citing *Jones & Laughlin Steel,* 301 U.S. at 30, 57 S.Ct. 615).

D.

With these standards in mind, we uphold, as a valid exercise of Congress's commerce power, the provisions of the CAA under which Ho was convicted. We review the constitutionality of a federal statute *de novo. Kallestad,* 236 F.3d at 227.

Ho feverishly insists that the government never proved that asbestos was released from the hospital into the ambient air, which necessarily means that no asbestos from the hospital polluted interstate air. Yet, the government did not need to prove that Ho polluted the ambient air to convict him.

Indeed, we may assume *arguendo,* for purposes of the Commerce Clause analysis, that no asbestos escaped the hospital, because Ho was not convicted of releasing asbestos into the ambient air; the district court dismissed this count after a pre-trial hearing. Instead, Ho was convicted of failure to comply with the asbestos work practice standard and failure to give notice of intent to remove asbestos. 42 U.S.C. §§ 7412(h), 7414(a); 40 C.F.R. § 61.145. The conviction rest on purely intrastate activities, no doubt, but *Jones & Laughlin Steel* and *Wickard* long ago established, and *Lopez* and *Morrison* recently reaffirmed, that Congress may regulate wholly intrastate activities that substantially affect interstate commerce.

The government concedes that the application of the asbestos work practice standard to Ho can be justified only under the substantial effect test. The standard does not regulate the channels of interstate commerce or prohibit the interstate shipment of a good or commodity through these channels. Nor does it seek to protect the instrumentalities of or a thing or person in interstate commerce.

Thus, if the conviction is to be sustained, "it must be under the third category as a regulation of an activity that substantially affects interstate commerce." *Lopez,* 514 U.S. at 559, 115 S.Ct. 1624.

Furthermore, the government concedes that the asbestos work practice standard can satisfy the substantial effect test only through the aggregation principle. The government does not seriously contend that Ho's isolated violation of the work practice standard at a single renovation site could, by itself, have a substantial effect on interstate commerce. Instead, the government argues that similar violations, when aggregated, could substantially affect the interstate market for asbestos removal services and the interstate market for commercial real estate.[12]

Thus, this case presents the limited question whether the aggregation principle extends to violations of the asbestos work practice standard. We apply the *Lopez-Morrison* considerations to answer in the affirmative.

First, the regulated intrastate activity, asbestos removal, is very much a commercial activity in today's economy. It is a booming industry, given the hazardous nature of asbestos and its seeming ubiquity in older buildings. There is nothing inherently criminal or disfavored about asbestos removal; in fact, it might be

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[12] Ho protests that the government did not adduce this argument at trial. It is true that the government defended the asbestos work practice standard in the district court based primarily on the effects of interstate pollution. Yet, the record adequately supports the government's theory urged on appeal, and we may affirm for any reason supported by the record. *LLEH, Inc. v. Wichita County,* 289 F.3d 358, 364 (5th Cir.2002).

considered a public service, and many reputable and certified businesses exist solely to remove asbestos from contaminated buildings.

Both the state and federal governments license businesses and individuals in the field. Most, if not all, asbestos removal projects have a commercial purpose, because handling toxic carcinogens is not something many people enjoy for its own sake. Unless the owner of an asbestos-containing building needs to renovate the building or demolish it for use of the land on which it sits, he is very likely to let sleeping dogs lie and not incur the costs or dangers of asbestos removal.

Moreover, Ho's activities were driven by commercial considerations. He voluntarily solicited bids from two such businesses, which returned sizable six-figure bids for the hospital project. Although Ho declined these bids as too costly, he hired the Mexican workers to remove the asbestos, which itself was a commercial transaction. Additionally, the entire project occurred in a building that Ho recently had purchased for $700,000. Had he not wanted to use the hospital for commercial purposes, he would not have paid such a hefty sum, solicited the bids for asbestos removal, or hired the workers to remove the asbestos on the sly. We can say with confidence, then, that asbestos removal in this case, unlike gun possession in a school zone or sex-based violence, is a commercial activity.

Second, the asbestos work practice standard does not contain any kind of jurisdictional element. Neither § 112(h) nor § 114(a) of the CAA, 42 U.S.C. §§ 7412(h), 7414(a), restricts the EPA's authority to promulgate work practice standards with a jurisdictional element. Unsurprisingly, the EPA did not limit the scope of the asbestos

work practice standard by means of any kind of jurisdictional element. 40 C.F.R. § 61.145.[13]

Third, Congress included no congressional findings regarding the substantial effects that asbestos removal may have on interstate commerce. Section 101, 42 U.S.C. § 7401, speaks generally to the harmful effects of air pollution and states the purposes of the CAA. A few passages from § 101 refer cursorily to what might be considered aspects of interstate commerce.[14] These brief passages, however, do not even begin to satisfy the stringent standards of *Morrison* for the use of congressional findings.

Likewise, the parties have not pointed us to any relevant or helpful passages from the legislative histories of the CAA, and we have not discovered any such passages on our own review. As so often happens, Congress seems to have assumed its power to regulate however it desires.

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[13] As we have observed, however, a jurisdictional element is not decisive in Commerce Clause analysis. Though a jurisdictional element may limit the scope of a statute to intrastate activities substantially affecting interstate commerce, the absence of such an element will not undermine a statute where the regulated activity in fact substantially affects interstate commerce, just as it will not save a statute where the regulated activity does not substantially affect interstate commerce.

[14] *See, e.g.*, 42 U.S.C. § 7401(a)(2) (stating that "the growth in amount and complexity of air pollution brought about by . . . industrial development . . . has resulted in mounting dangers to the public health and welfare, including injury to agricultural crops and livestock, damage to and the deterioration of property, and hazards to air and ground transportation"); § 7401(b)(1) (stating that a purpose of the CAA is "to protect and enhance the quality of the Nation's air resources so as to promote the public health and welfare and the productive capacity of its population").

Yet, congressional findings, as we have explained, are neither necessary nor sufficient to sustain a regulation. The same holds for a lack of congressional findings, especially where the substantial effects on interstate commerce are "visible to the naked eye." *Lopez,* 514 U.S. at 563, 115 S.Ct. 1624.

Most importantly, the relationship between the asbestos removal in violation of the work practice standard and interstate commerce is not attenuated, but direct and apparent. Congress had a rational basis to find not only that a national market exists for asbestos removal services, but also that Ho's activities would injure this market. *See Groome Res. Ltd., LLC v. Parish of Jefferson,* 234 F.3d 192, 203 (5th Cir.2000).

By violating the asbestos work practice standard, which imposes costly duties on persons and businesses engaged in asbestos removal, Ho gained a commercial advantage on licensed abatement companies. Whereas these companies must spend hundreds of thousands of dollars on projects like Ho's, Ho was able to scrape by – literally and figuratively – at a cut rate of barely more than $20,000 plus supplies. His activities also deprived licensed abatement companies of a promising business opportunity. These substantial effects on the asbestos removal market are direct, not attenuated, and they justify use of the aggregation principle in the narrow situation presented by this case.

Moreover, once aggregated, Ho's activities posed an threat to the interstate commercial real estate market. His illicit asbestos removal project likely would reduce the number of companies providing asbestos removal services. Fewer companies means that conscientious property

owners would have more trouble locating licensed abatement companies and likely would have to pay higher prices for the services of remaining companies. Furthermore, Ho would gain a commercial advantage over conscientious property owners who must pay these higher prices for asbestos removal.

By holding that Congress may aggregate violations of the asbestos work practice standard to satisfy the substantial effects test, we do not cede a general police power to Congress or abdicate our responsibility to enforce limits on the Commerce Clause. Far from it, for our holding today has two important limiting principles.

First, it applies only to a commercial activity, not to any activity whatsoever that might have detrimental environmental effects. The Supreme Court has long upheld the aggregation a class of commercial activity. *Morrison,* 529 U.S. at 613, 120 S.Ct. 1740. Second, the presence of a national market in the regulated activity also serves as a limiting principle.[15]

We therefore conclude the Commerce Clause analysis by re-emphasizing the limited nature of our holding. We uphold only the sections of the CAA authorizing the asbestos work practice standard, 42 U.S.C. §§ 7412(h), 7414(a), and the work practice standard itself, 40 C.F.R. § 61.141. We express no opinion on the constitutionality of

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[15] *See Perez,* 402 U.S. at 154-57, 91 S.Ct. 1357 (national market for commercial credit); *Wickard,* 317 U.S. at 127-28, 63 S.Ct. 82 (national market for wheat); *Bird,* 124 F.3d at 678 (national market for abortion services).

other sections of the CAA or their implementing regulations, or, for that matter, of other environmental laws.[16]

III.

Ho challenges the refusal to include an interstate commerce jurisdictional element in the jury instructions for each count. He argues that the jurisdictional element is necessary wherever a prosecution pushes the outer bounds of the Commerce Clause. Reviewing the court's jury instructions for abuse of discretion, *Cooper Indus., Inc. v. Tarmac Roofing Sys., Inc.*, 276 F.3d 704, 714 (5th Cir.2002), we disagree.

Ho cites *United States v. Threadgill*, 172 F.3d 357 (5th Cir.1999), for the proposition that *Lopez* requires an interstate commerce jurisdictional element because his prosecution pushed the outer bounds of the Commerce Clause. Unfortunately for Ho, we expressly rejected this proposition in *Threadgill*. *Id.* ("[T]he defendants essentially argue that *Lopez* has created a new jurisdictional element in all federal prosecutions of individual conduct. . . . We are not persuaded."). Moreover, the text of the CAA does not support Ho's position, because, unlike many

[16] "The Commerce Clause [is] broad enough to permit congressional regulation of activities causing air or water pollution, or other environmental hazards that may have effects in more than one State." *Hodel v. Va. Surface Mining & Reclamation Ass'n, Inc.*, 452 U.S. 264, 282 (1981). *Lopez* and *Morrison* do not challenge this principle, though they also do not exempt environmental regulations from Commerce Clause scrutiny. Though we note that the principle seems to require interstate effects before Congress may regulate for environmental problems, we have no occasion to analyze the principle in this case, because the asbestos work practice standard is a valid regulation of a commercial activity.

other federal criminal statutes, it does not contain a jurisdictional element that the government must plead and prove. *See, e.g.,* 18 U.S.C. § 2421. This omission is a legislative choice, not a constitutional defect.

At best, Ho falls back on a more general passage from *Threadgill,* 172 F.3d at 372: "Whether a defendant's conduct has a 'substantial effect on interstate commerce' is a question that only becomes relevant when the statute at issue, or the facts of the case, cast doubt on Congress' ability to use the Commerce Clause to regulate the charged conduct." We held that this rule did not apply in *Threadgill* because the crimes of gambling and unlawful structuring of banking transactions were "purely commercial activities." *Id.* Unlike the situation in *Lopez* and like that in *Threadgill,* however, neither the asbestos work practice standard nor the facts of this case cast doubt on Congress's ability to regulate Ho's conduct. The district court therefore did not err in refusing Ho's requested instruction.

IV.

Ho challenges the jury instruction on the count for failure to give notice of intent to remove asbestos. In summary, he argues that § 113(c)(2)(B), 42 U.S.C. § 7413(c)(2)(B), which imposes criminal penalties on "[a]ny person who knowingly fails to notify or report as required by under [the CAA]," requires not only knowledge of the presence of asbestos, but also knowledge of the CAA's notice requirement. The government, on the other hand, contends that it only needed to prove knowledge of the presence of asbestos.

The district court agreed with the government and instructed the jury that "[i]t is not necessary that the Government prove the Defendant actually knew of the notice requirement." Although we usually review failure to give a requested jury instruction for abuse of discretion, *Cooper Indus.*, 276 F.3d at 714, we review this question of statutory interpretation *de novo*, *United States v. Adam*, 296 F.3d 327, 330 (5th Cir.2002). The district court's instruction was correct, because § 113(c)(2)(B) does not require knowledge of the notice requirement.

We need refer only to the venerable maxim that "Ignorance of the law is no defense." It is as much a part of "our national culture" as are the *Miranda* warnings. *Dickerson v. United States*, 530 U.S. 428, 443, 120 S.Ct. 2326, 147 L.Ed.2d 405 (2000). Our criminal laws typically express this maxim with the "knowing" degree of scienter. The Supreme Court recently has explained in more lawyer-like fashion that "the term 'knowingly' does not necessarily have any reference to a culpable state of mind or to knowledge of the law. . . . '[T]he knowledge requisite to knowing violation of a statute is factual knowledge as distinguished from knowledge of the law.' "[17] This maxim is so strongly embedded in our legal system that "unless the text of a statute *dictates* a different result, the term 'knowingly' merely requires proof of knowledge of the facts

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[17] *Bryan v. United States*, 524 U.S. 184, 192, 118 S.Ct. 1939, 141 L.Ed.2d 197 (1998) (quoting *Boyce Motor Lines Inc. v. United States*, 342 U.S. 337, 345, 72 S.Ct. 329, 96 L.Ed. 367 (1952) (Jackson, J., dissenting)); *see also United States v. Baytank (Houston), Inc.*, 934 F.2d 599, 613 (5th Cir.1991) (stating that " 'knowingly' means no more than that the defendant knows factually what he is doing").

that constitute the offense." *Bryan,* 524 U.S. at 193, 118 S.Ct. 1939 (footnote omitted) (emphasis added).

This general rule applies with especial force to laws regulating hazardous substances. In *United States v. Int'l Minerals & Chem. Corp.,* 402 U.S. 558, 91 S.Ct. 1697, 29 L.Ed.2d 178 (1971), the Court upheld a conviction of a knowing failure to show shipping papers of a corrosive liquid. The government offered no proof that the defendant knew of the shipping paper regulation. The Court rejected the challenge, however, because the defendant had knowledge of the factual elements of the offense, which was all the statutory scienter of a knowing violation required. *Id.* at 562-64, 91 S.Ct. 1697. The Court further stated that where "dangerous or deleterious devices or products or obnoxious waste materials are involved, the probability of regulation is so great that anyone who is aware that he is in possession of them or dealing with them must be presumed to be aware of the regulation." *Id.* at 565, 91 S.Ct. 1697.

Although neither this court nor other circuit courts have interpreted the scienter required by § 113(c)(2)(B), we see no reason to depart from the longstanding principle that "knowingly" means knowledge of underlying facts, not law. To the contrary, we observe several sound reasons to apply the longstanding principle.

First, other circuits have trenchantly interpreted the term "knowingly" in § 113(c)(1) to require knowledge of facts, not law.[18] The phrasing of the two subsections is

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[18] *See United States v. Weintraub,* 273 F.3d 139 (2d Cir.2001); *United States v. Tomlinson,* No. 99-30020, 1999 WL 511496, 1999 U.S.

(Continued on following page)

identical, and the same terms in a statute should be interpreted in the same way. *Sullivan v. Stroop,* 496 U.S. 478, 484, 110 S.Ct. 2499, 110 L.Ed.2d 438 (1990). Second, the text of § 113(c)(2)(B) does not "dictate" a contrary result. *Bryan,* 524 U.S. at 193, 118 S.Ct. 1939. Third, this and the other circuit courts have held that the term "knowingly" in other environmental statutes means only a knowledge of facts, not law.[19]

Fourth, though the notice requirement is somewhat technical or administrative, the CAA as a whole is "a public welfare statute, involving a heavily regulated area with great ramifications for the public health and safety." *Baytank,* 934 F.2d at 613 (citation omitted). Consequently, failure to give notice of asbestos removal is "a type of conduct that a reasonable person should know is subject to stringent public regulation." *Id.* (citing and distinguishing *Liparota v. United States,* 471 U.S. 419, 433, 105 S.Ct. 2084, 85 L.Ed.2d 434 (1985)). In these circumstances, because we decline Ho's invitation to use ambiguous legislative history to interpret the plain meaning of the statutory text, *see Sale v. Haitian Ctrs. Council,* 509 U.S. 155, 169-70, 113 S.Ct. 2549, 125 L.Ed.2d 128 (1993), we conclude that § 113(c)(2)(B) requires only knowledge of the underlying factual elements and does not impose on the government the legal duty to give notice.

App. Lexis 16758 (9th Cir. July 16, 1999) (unpublished); *United States v. Buckley,* 934 F.2d 84 (6th Cir.1991).

[19] *See, e.g., United States v. Kelley Tech. Coatings, Inc.,* 157 F.3d 432, 436 (6th Cir.1998) (RCRA); *United States v. Ahmad,* 101 F.3d 386, 390 (5th Cir.1996) (Clean Water Act); *United States v. Laughlin,* 10 F.3d 961, 966-67 (2d Cir.1993) (CERCLA); *United States v. Buckley,* 934 F.2d 84, 88-89 (6th Cir.1991) (CERCLA); *Baytank,* 934 F.2d at 613 (RCRA).

Ho plainly had knowledge of the underlying factual elements of § 113(c)(2)(B), and in particular of the presence of asbestos. The preceding owner of the hospital informed Ho that it contained asbestos. Ho sought an estimate for removal costs from a licensed asbestos abatement company, then specifically tried to avoid those costs by hiring untrained and unlicensed workers. Ho also received a stop-work order, from the city, that should have alerted him to the presence of asbestos even if he had not already known that the hospital contained asbestos.

Ho nevertheless ignored the order, sought a second estimate from a licensed asbestos abatement company, and continued the removal project. In sum, the jury instruction stated the correct legal standard of scienter, and the evidence more than adequately supported a jury finding that Ho acted with knowledge of the underlying factual elements.

V.

Ho contends that his conviction is based on an improperly promulgated regulation. The asbestos work practice standard applies to Ho's activities only if the hospital satisfies the regulatory definition of "facility," 40 C.F.R. § 61.141. The EPA amended this definition in 1990,[20] and Ho argues that the amendment was

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[20] Under the pre-1990 definition, "*Facility* means any institutional, commercial, or industrial structure, installation, or building (excluding apartment buildings having no more than four dwelling units)." 40 C.F.R. § 61.141 (1988). Under the current definition,

> *Facility* means any institutional, commercial, public, industrial, or residential structure, installation, or building

(Continued on following page)

improperly promulgated. Applying the *de novo* standard of review,[21] we disagree.

The CAA bars Ho's procedural challenge to the 1990 rulemaking that amended the definition of "facility." First, § 307(b)(1), 42 U.S.C. § 7607(b)(1), requires any challenge to a rulemaking under §§ 112 and 113 to be filed in the District of Columbia Circuit. Title 40 C.F.R. § 61.141 is such a rule, so venue is improper in the courts of this circuit. Second, § 307(b)(1) also requires any challenge to be filed within sixty days of a final agency rulemaking. The amended definition became final on November 20, 1990, 55 Fed. Reg. 48406, years before Ho challenged its validity. Thus, the amended definition is "not subject to judicial review in civil or criminal proceedings." 42 U.S.C. § 7607(b)(2).

(including any structure, installation, or building containing condominiums or individual dwelling units operated as a residential cooperative, but excluding apartment buildings having four or fewer dwelling units); any ship; and any active or inactive waste disposal site. For purposes of this definition, any building, structure, or installation that contains a loft used as a dwelling is not considered a residential structure, installation, or building. Any structure, installation, or building that was previously subject to this subpart is not excluded, regardless of its current use or function.

40 C.F.R. § 61.141 (2002). We need not, and do not, address whether this regulation applies to an individual residence. *See Jones v. United States,* 529 U.S. 848, 120 S.Ct. 1904, 146 L.Ed.2d 902 (2000).

[21] In a challenge to agency rulemaking, we usually look to the Administrative Procedure Act, 5 U.S.C. § 551 *et seq.*, for the standard of review, but the CAA bars review of the regulation in this case, so we apply the *de novo* standard of review, which is customary for questions of law. *Cox v. City of Dallas,* 256 F.3d 281, 288 (5th Cir.2001).

The ruling in *Adamo Wrecking Co. v. United States,* 434 U.S. 275, 98 S.Ct. 566, 54 L.Ed.2d 538 (1978), does not aid Ho. There, the Court permitted an otherwise untimely challenge under § 307(b)(1) on the question whether the disputed regulation was in fact an "emission standard." *Id.* at 285, 98 S.Ct. 566. The Court specifically forbade the lower courts, on remand, from considering whether the agency had "complied with appropriate procedures in promulgating the regulation . . . [or] any of the other familiar inquiries which arise in the course of an administrative review proceeding." *Id.* Ho does not dispute that 40 C.F.R. § 61.141 was promulgated under §§ 112 and 113. *Adamo* therefore does not apply.[22]

VI.

The government appeals the refusal to enhance Ho's sentence for (1) repetitive discharge of asbestos into the environment and (2) leadership in an extensive criminal activity. When reviewing a sentence, we review findings of facts for clear error and interpretations of the sentencing guidelines *de novo. United States v. Roberts,* 203 F.3d 867, 869 (5th Cir.2000).

A.

The government sought a six-level sentence enhancement for an "ongoing, continuous, or repetitive discharge,

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[22] We also observe that the hospital satisfies the pre-1990 definition of "facility" because Ho purchased it and removed the asbestos for commercial purposes, and the definition did not exclude previously abandoned buildings.

release, or emission of a hazardous or toxic substance or pesticide into the environment." U.S.S.G. § 2Q1.2(b)(1)(A). The court declined, holding that the phrase "into the environment" required proof of a discharge outside the hospital, which it held the government had not established. The government argues on appeal, as in the district court, that the phrase "into the environment" includes indoor air and, in any event, that it proved a discharge of asbestos outside the hospital. Because we conclude that the government sufficiently proved, for purposes of sentencing, a discharge outside the hospital regardless of the meaning of "into the environment," we reserve the interpretive question and assume only *arguendo* that § 2Q1.2(b)(1)(A) requires proof of a discharge outside the hospital.

The district court clearly erred by ruling that the government did not prove that Ho's activities resulted in a discharge of asbestos outside the hospital. "A factual finding is clearly erroneous 'when although there is evidence to support it, the reviewing court on the entire evidence is left with the definite and firm conviction that a mistake has been committed.'" *United States v. Cooper,* 274 F.3d 230, 238 (5th Cir.2001) (quoting *United States v. Hill,* 42 F.3d 914, 918 (5th Cir.1995)). The record leaves us with just this conviction.

The court based its ruling on three main factual findings. First, the workers removed only one bag of fireproofing from the hospital, and even then immediately retrieved the bag. Second, the court concluded that the government had not proven that wind had blown asbestos out of the unsealed hospital. Third, the court concluded that the government had not established that dust tracked outside the hospital by workers was asbestos instead of

innocuous sheetrock residue. Though the first finding is correct, the overwhelming weight of contrary evidence cannot support the second and third findings or the court's ultimate conclusion.

An avalanche of facts supports the government's modest argument: that asbestos *must have escaped* the unsealed hospital during the asbestos removal.[23] This conclusion intuitively stands to reason, because the hospital was never sealed, much less properly sealed as required by regulation, 40 C.F.R. § 61.145, during seven weeks of asbestos removal.

Yet, there is much more. Testimony at trial supports this conclusion. Stewart, a building inspector for the city, testified that he observed airborne fireproofing dust inside the hospital when he inspected it on February 2, 1998. He further stated that the hospital had no containment system that day to prevent the dust from escaping. Hendrix, a TDH inspector, recounted that he also observed airborne fireproofing dust inside the hospital when he inspected it on March 13, 1998.

Moreover, Hendrix testified that all the doors and many of the windows to the hospital were open. At the OSHA civil proceeding, Hendrix also said that the hospital

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[23] Ho incorrectly contends that the government impermissibly relies on the presentence report ("PSR") for this argument. The government cites the PSR, but only for the conclusion that asbestos escaped the hospital; the facts behind this conclusion appear in the record. And, in any event, a PSR is admissible as evidence for sentencing purposes, though it may not be used to support a conviction on appeal if the defendant objects to the PSR. *Cooper*, 274 F.3d at 239.

was "open . . . with the wind blowing through it."[24] Williams, another TDH inspector, testified that he took a sample of dust from the frame of an exterior door and that the sample contained two percent chrysolite asbestos. Finally, Wiest, a certified asbestos removal contractor, inspected the hospital on April 3, 1998, and observed an airflow through the unsealed doors and windows and through the hole caused by the explosion.

Photographs of the scene show that the bags of removed fireproofing, though inside the hospital, were open and unsealed, allowing any breeze to blow the fireproofing out of the bag. Another photo shows fireproofing dust on or near an open exterior door. A third photo shows a large hole in the second floor exterior wall, though [sic] which workers frequently threw debris into a dumpster on the ground below. A fourth photograph shows dusty footprints just outside an exterior door of the hospital. Although the court stated that this picture is as consistent with sheetrock residue tracks, this is no different from saying that the photograph is as consistent with fireproofing dust tracks, which is more consistent with the other evidence.

Finally, we come to the remarkable fact of the explosion on March 10, 1998, which was strong enough to blow a hole in the exterior wall of the hospital. Surely an explosion strong enough to move mortared bricks was also strong enough to move fine, loose fireproofing dust. And,

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[24] Ho objects to this testimony, but "sentencing proceedings do not offer criminal defendants the same procedural safeguards as trials." *United States v. Goldfaden*, 959 F.2d 1324, 1330 (5th Cir.1992). Furthermore, Ho gives no reason why Hendrix's testimony at the OSHA proceeding should be deemed unreliable.

as with the other openings on the exterior wall, Ho's failure to seal this new hole after the explosion obviously allowed more fireproofing dust to escape.

This evidence, when considered as a whole, leaves no doubt that asbestos escaped the unsealed hospital continuously and repeatedly throughout the removal project.[25] We find support for this conclusion in *United States v. Chau*, 293 F.3d 96, 99-100 (3d Cir.2002), affirming an enhancement for repetitive discharge under § 2Q1.2(b)(1)(A). The record in *Chau* showed that the defendant had disturbed asbestos inside a building and moved open bags of asbestos outside the building. *Chau*, 293 F.3d at 100. Although the court was affirming a finding of repetitive discharge, rather than reversing a finding of no repetitive discharge, the facts in the instant case are equally strong as those in *Chau*.

The government has proven an asbestos discharge by a preponderance of the evidence, which is all that is required at the sentencing phase. Because the district

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[25] Ho mistakenly argues that the government must prove "actual environmental contamination." This phrase comes from application note 5 to U.S.S.G. § 2Q1.2. We held in *Goldfaden* that note 5 presumes *contamination* if the government proves *discharge*. *Goldfaden*, 959 F.2d at 1331.

> These terms are not synonymous. A "discharge" refers to the movement of hazardous or toxic substances, whereas "contamination" refers to the environmental effect of a discharge. Ho and the government disagree only on the discharge question. The record supports the government, not Ho or the district court, on the discharge question, so contamination is presumed according to note 5 and *Goldfaden*.

court clearly erred by holding otherwise, we vacate and remand for re-sentencing.

B.

The government sought a four-level sentence enhancement for Ho's status as "an organizer or leader of a criminal activity that involved five or more participants or was otherwise extensive." U.S.S.G. § 3B1.1(a). The court instead imposed a two-level enhancement under § 3B1.1(c), concluding that Ho's criminal activity did not involve five or more participants and was not otherwise extensive.

The only question is the meaning of "otherwise extensive." The government must establish three elements for a § 3B1.1(a) enhancement: (1) Ho was an organizer or leader of a criminal activity, (2) that involved at least one other criminally responsible "participant"[26] and (3) that "involved at least five participants or was otherwise extensive." Section 3B1.1(c) also requires the first two elements, but not the third. Thus, when it imposed the two-level enhancement under § 3B1.1(c), the court found that Ho was an organizer and Escobedo was a criminally responsible "participant." Ho does not appeal these findings, nor does the government contend that the Mexican workers were criminally responsible "participants." Thus, we

[26] In *United States v. Gross*, 26 F.3d 552 (5th Cir.1994), we held that § 3B1.1 does not apply unless the criminal activity involved at least two criminally responsible "participants." Application note 1 to § 3B1.1 defines a "participant" as "a person who is criminally responsible for the commission of the offense, but need not have been convicted."

consider only whether the district court properly interpreted the phrase "otherwise extensive."

We usually review determinations under § 3B1.1 for clear error,[27] but we apply the *de novo* standard here because the court misinterpreted the phrase "otherwise extensive." The parties do not dispute the factual matter of Ho's conduct, but rather the legal meaning of the phrase "otherwise extensive." Although the district court was somewhat opaque, it apparently interpreted this phrase to require an ongoing criminal organization of a kind that would justify an upward departure (as distinguished from an enhancement) under application note 2. We review this legal interpretation of the guideline *de novo. Roberts,* 203 F.3d at 869.

This interpretation misreads application note 3 and ignores settled Fifth Circuit precedent. Note 3 directs that "[i]n assessing whether an organization is 'otherwise extensive,' all persons involved during the course of the entire offense are to be considered." Note 3 is binding on the federal courts, *Stinson v. United States,* 508 U.S. 36, 113 S.Ct. 1913, 123 L.Ed.2d 598 (1993), and instructs the court to examine number of persons involved in the activity, not the nature of the criminal organization.

Indeed, note 3 continues to state, by way of example, that "a fraud that involved only three participants but used the unknowing services of many outsiders could be considered extensive." Thus, a criminal activity is

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[27] *See, e.g., United States v. Davis,* 226 F.3d 346, 360 (5th Cir.2000) (reviewing for clear error); *United States v. Glinsey,* 209 F.3d 386, 396 (5th Cir.2000) (same).

"otherwise extensive" if it involved five or more people who "contributed to the success of the scheme." *Davis,* 226 F.3d at 360. Moreover, we repeatedly have held that "[i]n deciding whether a scheme was otherwise extensive, the district court *must* take into account all persons involved during the course of the entire offense." *Id.* (emphasis added) (citation omitted); *Glinsey,* 209 F.3d at 396.

The court erred by interpreting the phrase "otherwise extensive" in § 3B1.1(a) to refer to the nature of the criminal organization, as distinguished from the number of participants and persons involved.[28] We therefore vacate and remand for new sentencing in light of the proper and longstanding interpretation of that phrase.

For the foregoing reasons, the judgment of conviction is AFFIRMED, and the judgment of sentence is VACATED and REMANDED for proceedings consistent with this opinion.

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[28] Of course, Ho was convicted of failure to comply with the asbestos work practice standard and failure to give notice of intent to remove asbestos. Thus, he alone committed the specific unlawful acts. Yet, these acts presuppose the unlawful asbestos removal activity, which involved more than five persons.

APPENDIX B

IN THE UNITED STATES COURT OF APPEALS
FOR THE FIFTH CIRCUIT

No. 01-20460

UNITED STATES OF AMERICA

Plaintiff – Appellee-Cross-Appellant

v.

ERIC KUNG-SHOU HO

Defendant – Appellant-Cross-Appellee

Appeals from the United States District Court for the
Southern District of Texas, Houston

ON PETITION FOR REHEARING

(Filed Dec. 4, 2002)

Before DAVIS, JONES, and SMITH, Circuit Judges.

PER CURIAM:

IT IS ORDERED that the petition for rehearing is **DENIED**.

ENTERED FOR THE COURT:

/s/ Jerry E. Smith
United States Circuit Judge

APPENDIX C

C. CONSTITUTIONAL PROVISIONS, TREATIES, STATUTES, RULES, AND REGULATIONS

1. The Fifth Amendment to the U.S. Constitution provides:

> No person shall be held to answer for a capital, or otherwise infamous crime, unless on a presentment or indictment of a Grand Jury, except in cases arising in the land or naval forces, or in the Militia, when in actual service in time of War or public danger; nor shall any person be subject for the same offence to be twice put in jeopardy of life or limb; nor shall be compelled in any criminal case to be a witness against himself, nor be deprived of life, liberty, or property, without due process of law; nor shall private property be taken for public use, without just compensation.

2 Art. 1, Section 8, Clause 3 of the Constitution of the United States provides:

> 8. Congress shall have power * * * to regulate commerce with foreign nations, and among the several states, and with the Indian Tribes.

3. Section 112(b) of the Clean Air Act, 42 U.S.C. § 7412 (b), provides:

List of pollutants

> (1) Initial list
>
> The Congress establishes for purposes of this section a list of hazardous air pollutants as follows

CAS number Chemical name

75070 Acetaldehyde
60355 Acetamide
75058 Acetonitrile
98862 Acetophenone
53963 2-Acetylaminofluorene
107028 Acrolein
79061 Acrylamide
79107 Acrylic acid
107131 Acrylonitrile
107051 Allyl chloride
92671 4-Aminobiphenyl
62533 Aniline
90040 o-Anisidine
1332214 Asbestos
71432 Benzene (including benzene from gasoline)
92875 Benzidine
98077 Benzotrichloride
100447 Benzyl chloride
92524 Biphenyl
117817 Bis(2-ethylhexyl)phthalate (DEHP)
542881 Bis(chloromethyl)ether
75252 Bromoform
106990 1,3-Butadiene
156627 Calcium cyanamide
105602 Caprolactam
133062 Captan
63252 Carbaryl
75150 Carbon disulfide
56235 Carbon tetrachloride
463581 Carbonyl sulfide
120809 Catechol
133904 Chloramben
57749 Chlordane
7782505 Chlorine
79118 Chloroacetic acid
532274 2-Chloroacetophenone

108907 Chlorobenzene
510156 Chlorobenzilate
67663 Chloroform
107302 Chloromethyl methyl ether
126998 Chloroprene
1319773 Cresols/Cresylic acid (isomers and mixture)
95487 o-Cresol
108394 m-Cresol
106445 p-Cresol
98828 Cumene
94757 2,4-D, salts and esters
3547044 DDE
334883 Diazomethane
132649 Dibenzofurans
96128 1,2-Dibromo-3-chloropropane
84742 Dibutylphthalate
106467 1,4-Dichlorobenzene(p)
91941 3,3-Dichlorobenzidene
111444 Dichloroethyl ether (Bis(2- chloroethyl)ether)
542756 1,3-Dichloropropene
62737 Dichlorvos
111422 Diethanolamine
121697 N,N-Diethyl aniline (N,N- Dimethylaniline)
64675 Diethyl sulfate
119904 3,3-Dimethoxybenzidine
60117 Dimethyl aminoazobenzene
119937 3,3-Dimethyl benzidine
79447 Dimethyl carbamoyl chloride
68122 Dimethyl formamide
57147 1,1-Dimethyl hydrazine
131113 Dimethyl phthalate
77781 Dimethyl sulfate
534521 4,6-Dinitro-o-cresol, and salts
51285 2,4-Dinitrophenol

121142 2,4-Dinitrotoluene
123911 1,4-Dioxane (1,4-Diethyleneoxide)
122667 1,2-Diphenylhydrazine
106898 Epichlorohydrin (l-Chloro-2,3- epoxypropane)
106887 1,2-Epoxybutane
140885 Ethyl acrylate
100414 Ethyl benzene
51796 Ethyl carbamate (Urethane)
75003 Ethyl chloride (Chloroethane)
106934 Ethylene dibromide (Dibromoethane)
107062 Ethylene dichloride (1,2- Dichloroethane)
107211 Ethylene glycol
151564 Ethylene imine (Aziridine)
75218 Ethylene oxide
96457 Ethylene thiourea
75343 Ethylidene dichloride (1,1- Dichloroethane)
50000 Formaldehyde
76448 Heptachlor
118741 Hexachlorobenzene
87683 Hexachlorobutadiene
77474 Hexachlorocyclopentadiene
67721 Hexachloroethane
822060 Hexamethylene-1,6-diisocyanate
680319 Hexamethylphosphoramide
110543 Hexane
302012 Hydrazine
7647010 Hydrochloric acid
7664393 Hydrogen fluoride (Hydrofluoric acid)
123319 Hydroquinone
78591 Isophorone
58899 Lindane (all isomers)
108316 Maleic anhydride
67561 Methanol
72435 Methoxychlor
74839 Methyl bromide (Bromomethane)

74873 Methyl chloride (Chloromethane)
71556 Methyl chloroform (1,1,1- Trichloroethane)
78933 Methyl ethyl ketone (2-Butanone)
60344 Methyl hydrazine
74884 Methyl iodide (Iodomethane)
108101 Methyl isobutyl ketone (Hexone)
624839 Methyl isocyanate
80626 Methyl methacrylate
1634044 Methyl tert butyl ether
101144 4,4-Methylene bis(2- chloroaniline)
75092 Methylene chloride (Dichloromethane)
101688 Methylene diphenyl diisocyanate (MDI)
101779 4,4-Methylenedianiline
91203 Naphthalene
98953 Nitrobenzene
92933 4-Nitrobiphenyl
100027 4-Nitrophenol
79469 2-Nitropropane
684935 N-Nitroso-N-methylurea
62759 N-Nitrosodimethylamine
59892 N-Nitrosomorpholine
56382 Parathion
82688 Pentachloronitrobenzene (Quintobenzene)
87865 Pentachlorophenol
108952 Phenol
106503 p-Phenylenediamine
75445 Phosgene
7803512 Phosphine
7723140 Phosphorus
85449 Phthalic anhydride
1336363 Polychlorinated biphenyls (Aroclors)
1120714 1,3-Propane sultone
57578 beta-Propiolactone
123386 Propionaldehyde
114261 Propoxur (Baygon)
78875 Propylene dichloride (1,2- Dichloropropane)
75569 Propylene oxide

75558 1,2-Propylenimine (2-Methyl aziridine)
91225 Quinoline
106514 Quinone
100425 Styrene
96093 Styrene oxide
1746016 2,3,7,8-Tetrachlorodibenzo-p- dioxin
79345 1,1,2,2-Tetrachloroethane
127184 Tetrachloroethylene (Perchloroethylene)
7550450 Titanium tetrachloride
108883 Toluene
95807 2,4-Toluene diamine
584849 2,4-Toluene diisocyanate
95534 o-Toluidine
8001352 Toxaphene (chlorinated camphene)
120821 1,2,4-Trichlorobenzene
79005 1,1,2-Trichloroethane
79016 Trichloroethylene
95954 2,4,5-Trichlorophenol
88062 2,4,6-Trichlorophenol
121448 Triethylamine
1582098 Trifluralin
540841 2,2,4-Trimethylpentane
108054 Vinyl acetate
593602 Vinyl bromide
75014 Vinyl chloride
75354 Vinylidene chloride (1,1- Dichloroethylene)
1330207 Xylenes (isomers and mixture)
95476 o-Xylenes
108383 m-Xylenes
106423 p-Xylenes
0 Antimony Compounds
0 Arsenic Compounds (inorganic including arsine)
0 Beryllium Compounds
0 Cadmium Compounds
0 Chromium Compounds
0 Cobalt Compounds
0 Coke Oven Emissions

0 Cyanide Compounds (FOOTNOTE 1)
0 Glycol ethers (FOOTNOTE 2)
0 Lead Compounds
0 Manganese Compounds
0 Mercury Compounds
0 Fine mineral fibers (FOOTNOTE 3)
0 Nickel Compounds
0 Polycylic Organic Matter (FOOTNOTE 4)
0 Radionuclides (including radon) (FOOTNOTE 5)
0 Selenium Compounds

NOTE: For all listings above which contain the word "compounds" and for glycol ethers, the following applies: Unless otherwise specified, these listings are defined as including any unique chemical substance that contains the named chemical (i.e., antimony, arsenic, etc.) as part of that chemical's infrastructure. [1] X CN where X = H or any other group where a formal dissociation may occur. For example KCN or Ca(CN)2. (FOOTNOTE 2) Includes mono- and di- ethers of ethylene glycol, diethylene glycol, and triethylene glycol R-(OCH2CH2)n-OR where n = 1, 2, or 3 R = alkyl or aryl groups R = R, H, or groups which, when removed, yield glycol ethers with the structure: R-(OCH2CH)n-OH. Polymers are excluded from the glycol category. (FOOTNOTE 3) Includes mineral fiber emissions from facilities manufacturing or processing glass, rock, or slag fibers (or other mineral derived fibers) of average diameter 1 micrometer or less. (FOOTNOTE 4) Includes organic compounds with more than one benzene ring, and which have a boiling point greater than or equal to 100 degrees C. (FOOTNOTE 5) A type of atom which spontaneously undergoes radioactive decay.

(2) Revision of the list

The Administrator shall periodically review the list established by this subsection and publish the results thereof and, where appropriate, revise such list by rule, adding pollutants which present, or may present, through inhalation or other routes of exposure, a threat of adverse human health effects (including, but not limited to, substances which are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, neurotoxic, which cause reproductive dysfunction, or which are acutely or chronically toxic) or adverse environmental effects whether through ambient concentrations, bioaccumulation, deposition, or otherwise, but not including releases subject to regulation under subsection (r) of this section as a result of emissions to the air. No air pollutant which is listed under section 7408(a) of this title may be added to the list under this section, except that the prohibition of this sentence shall not apply to any pollutant which independently meets the listing criteria of this paragraph and is a precursor to a pollutant which is listed under section 7408(a) of this title or to any pollutant which is in a class of pollutants listed under such section. No substance, practice, process or activity regulated under subchapter VI of this chapter shall be subject to regulation under this section solely due to its adverse effects on the environment.

(3) Petitions to modify the list

(A) Beginning at any time after 6 months after November 15, 1990, any person may petition the Administrator to modify the list of hazardous air pollutants under this subsection by adding or deleting a substance or, in case of listed pollutants

without CAS numbers (other than coke oven emissions, mineral fibers, or polycyclic organic matter) removing certain unique substances. Within 18 months after receipt of a petition, the Administrator shall either grant or deny the petition by publishing a written explanation of the reasons for the Administrator's decision. Any such petition shall include a showing by the petitioner that there is adequate data on the health or environmental defects [2] of the pollutant or other evidence adequate to support the petition. The Administrator may not deny a petition solely on the basis of inadequate resources or time for review.

(B) The Administrator shall add a substance to the list upon a showing by the petitioner or on the Administrator's own determination that the substance is an air pollutant and that emissions, ambient concentrations, bioaccumulation or deposition of the substance are known to cause or may reasonably be anticipated to cause adverse effects to human health or adverse environmental effects.

(C) The Administrator shall delete a substance from the list upon a showing by the petitioner or on the Administrator's own determination that there is adequate data on the health and environmental effects of the substance to determine that emissions, ambient concentrations, bioaccumulation or deposition of the substance may not reasonably be anticipated to cause any adverse effects to the human health or adverse environmental effects.

(D) The Administrator shall delete one or more unique chemical substances that contain a listed hazardous air pollutant not having a CAS number

(other than coke oven emissions, mineral fibers, or polycyclic organic matter) upon a showing by the petitioner or on the Administrator's own determination that such unique chemical substances that contain the named chemical of such listed hazardous air pollutant meet the deletion requirements of subparagraph (C). The Administrator must grant or deny a deletion petition prior to promulgating any emission standards pursuant to subsection (d) of this section applicable to any source category or subcategory of a listed hazardous air pollutant without a CAS number listed under subsection (b) of this section for which a deletion petition has been filed within 12 months of November 15, 1990.

(4) Further information

If the Administrator determines that information on the health or environmental effects of a substance is not sufficient to make a determination required by this subsection, the Administrator may use any authority available to the Administrator to acquire such information.

(5) Test methods

The Administrator may establish, by rule, test measures and other analytic procedures for monitoring and measuring emissions, ambient concentrations, deposition, and bioaccumulation of hazardous air pollutants.

(6) Prevention of significant deterioration

The provisions of part C of this subchapter (prevention of significant deterioration) shall not apply to pollutants listed under this section.

(7) Lead

The Administrator may not list elemental lead as a hazardous air pollutant under this subsection.

4. Section 112(c) of the Clean Air Act, 42 U.S.C. § 7412 (c), provides:

List of source categories

(1) In general

Not later than 12 months after November 15, 1990, the Administrator shall publish, and shall from time to time, but no less often than every 8 years, revise, if appropriate, in response to public comment or new information, a list of all categories and subcategories of major sources and area sources (listed under paragraph (3)) of the air pollutants listed pursuant to subsection (b) of this section. To the extent practicable, the categories and subcategories listed under this subsection shall be consistent with the list of source categories established pursuant to section 7411 of this title and part C of this subchapter. Nothing in the preceding sentence limits the Administrator's authority to establish subcategories under this section, as appropriate.

(2) Requirement for emissions standards

For the categories and subcategories the Administrator lists, the Administrator shall establish emissions standards under subsection (d) of this section, according to the schedule in this subsection and subsection (e) of this section.

(3) Area sources

The Administrator shall list under this subsection each category or subcategory of area sources

which the Administrator finds presents a threat of adverse effects to human health or the environment (by such sources individually or in the aggregate) warranting regulation under this section. The Administrator shall, not later than 5 years after November 15, 1990, and pursuant to subsection (k)(3)(B) of this section, list, based on actual or estimated aggregate emissions of a listed pollutant or pollutants, sufficient categories or subcategories of area sources to ensure that area sources representing 90 percent of the area source emissions of the 30 hazardous air pollutants that present the greatest threat to public health in the largest number of urban areas are subject to regulation under this section. Such regulations shall be promulgated not later than 10 years after November 15, 1990.

(4) Previously regulated categories

The Administrator may, in the Administrator's discretion, list any category or subcategory of sources previously regulated under this section as in effect before November 15, 1990.

(5) Additional categories

In addition to those categories and subcategories of sources listed for regulation pursuant to paragraphs (1) and (3), the Administrator may at any time list additional categories and subcategories of sources of hazardous air pollutants according to the same criteria for listing applicable under such paragraphs. In the case of source categories and subcategories listed after publication of the initial list required under paragraph (1) or (3), emission standards under subsection (d) of this section for the category or subcategory shall be promulgated within 10 years after November 15,

1990, or within 2 years after the date on which such category or subcategory is listed, whichever is later.

(6) Specific pollutants

With respect to alkylated lead compounds, polycyclic organic matter, hexachlorobenzene, mercury, polychlorinated biphenyls, 2,3,7,8-tetrachlorodibenzofurans and 2,3,7,8-tetrachlorodibenzo-p-dioxin, the Administrator shall, not later than 5 years after November 15, 1990, list categories and subcategories of sources assuring that sources accounting for not less than 90 per centum of the aggregate emissions of each such pollutant are subject to standards under subsection (d)(2) or (d)(4) of this section. Such standards shall be promulgated not later than 10 years after November 15, 1990. This paragraph shall not be construed to require the Administrator to promulgate standards for such pollutants emitted by electric utility steam generating units.

(7) Research facilities

The Administrator shall establish a separate category covering research or laboratory facilities, as necessary to assure the equitable treatment of such facilities. For purposes of this section, "research or laboratory facility" means any stationary source whose primary purpose is to conduct research and development into new processes and products, where such source is operated under the close supervision of technically trained personnel and is not engaged in the manufacture of products for commercial sale in commerce, except in a de minimis manner.

(8) Boat manufacturing

When establishing emissions standards for styrene, the Administrator shall list boat manufacturing as a separate subcategory unless the Administrator finds that such listing would be inconsistent with the goals and requirements of this chapter.

(9) Deletions from the list

(A) Where the sole reason for the inclusion of a source category on the list required under this subsection is the emission of a unique chemical substance, the Administrator shall delete the source category from the list if it is appropriate because of action taken under either subparagraphs (C) or (D) of subsection (b)(3) of this section.

(B) The Administrator may delete any source category from the list under this subsection, on petition of any person or on the Administrator's own motion, whenever the Administrator makes the following determination or determinations, as applicable:

(i) In the case of hazardous air pollutants emitted by sources in the category that may result in cancer in humans, a determination that no source in the category (or group of sources in the case of area sources) emits such hazardous air pollutants in quantities which may cause a lifetime risk of cancer greater than one in one million to the individual in the population who is most exposed to emissions of such pollutants from the source (or group of sources in the case of area sources).

(ii) In the case of hazardous air pollutants that may result in adverse health effects in humans other than cancer or adverse environmental effects, a determination that emissions from no source in the category or subcategory concerned (or group of sources in the case of area sources) exceed a level which is adequate to protect public health with an ample margin of safety and no adverse environmental effect will result from emissions from any source (or from a group of sources in the case of area sources).

The Administrator shall grant or deny a petition under this paragraph within 1 year after the petition is filed.

5. Section 112(d) of the Clean Air Act, 42 U.S.C. § 7412 (d), provides:

Emission standards

(1) In general

The Administrator shall promulgate regulations establishing emission standards for each category or subcategory of major sources and area sources of hazardous air pollutants listed for regulation pursuant to subsection (c) of this section in accordance with the schedules provided in subsections (c) and (e) of this section. The Administrator may distinguish among classes, types, and sizes of sources within a category or subcategory in establishing such standards except that, there shall be no delay in the compliance date for any standard applicable to any source under subsection (i) of this section as the result of the authority provided by this sentence.

(2) Standards and methods

Emissions standards promulgated under this subsection and applicable to new or existing sources of hazardous air pollutants shall require the maximum degree of reduction in emissions of the hazardous air pollutants subject to this section (including a prohibition on such emissions, where achievable) that the Administrator, taking into consideration the cost of achieving such emission reduction, and any non-air quality health and environmental impacts and energy requirements, determines is achievable for new or existing sources in the category or subcategory to which such emission standard applies, through application of measures, processes, methods, systems or techniques including, but not limited to, measures which –

(A) reduce the volume of, or eliminate emissions of, such pollutants through process changes, substitution of materials or other modifications,

(B) enclose systems or processes to eliminate emissions,

(C) collect, capture or treat such pollutants when released from a process, stack, storage or fugitive emissions point,

(D) are design, equipment, work practice, or operational standards (including requirements for operator training or certification) as provided in subsection (h) of this section, or

(E) are a combination of the above.

None of the measures described in subparagraphs (A) through (D) shall, consistent with the provisions of section 7414(c) of this title, in any way compromise any United States patent or

United States trademark right, or any confidential business information, or any trade secret or any other intellectual property right.

(3) New and existing sources

The maximum degree of reduction in emissions that is deemed achievable for new sources in a category or subcategory shall not be less stringent than the emission control that is achieved in practice by the best controlled similar source, as determined by the Administrator. Emission standards promulgated under this subsection for existing sources in a category or subcategory may be less stringent than standards for new sources in the same category or subcategory but shall not be less stringent, and may be more stringent than –

(A) the average emission limitation achieved by the best performing 12 percent of the existing sources (for which the Administrator has emissions information), excluding those sources that have, within 18 months before the emission standard is proposed or within 30 months before such standard is promulgated, whichever is later, first achieved a level of emission rate or emission reduction which complies, or would comply if the source is not subject to such standard, with the lowest achievable emission rate (as defined by section 7501 of this title) applicable to the source category and prevailing at the time, in the category or subcategory for categories and subcategories with 30 or more sources, or

(B) the average emission limitation achieved by the best performing 5 sources (for which the Administrator has or could reasonably obtain emissions information) in the category or subcategory

for categories or subcategories with fewer than 30 sources.

(4) Health threshold

With respect to pollutants for which a health threshold has been established, the Administrator may consider such threshold level, with an ample margin of safety, when establishing emission standards under this subsection.

(5) Alternative standard for area sources

With respect only to categories and subcategories of area sources listed pursuant to subsection (c) of this section, the Administrator may, in lieu of the authorities provided in paragraph (2) and subsection (f) of this section, elect to promulgate standards or requirements applicable to sources in such categories or subcategories which provide for the use of generally available control technologies or management practices by such sources to reduce emissions of hazardous air pollutants.

(6) Review and revision

The Administrator shall review, and revise as necessary (taking into account developments in practices, processes, and control technologies), emission standards promulgated under this section no less often than every 8 years.

(7) Other requirements preserved

No emission standard or other requirement promulgated under this section shall be interpreted, construed or applied to diminish or replace the requirements of a more stringent emission limitation or other applicable requirement established pursuant to section 7411 of this

title, part C or D of this subchapter, or other authority of this chapter or a standard issued under State authority.

(8) Coke ovens

(A) Not later than December 31, 1992, the Administrator shall promulgate regulations establishing emission standards under paragraphs (2) and (3) of this subsection for coke oven batteries. In establishing such standards, the Administrator shall evaluate –

(i) the use of sodium silicate (or equivalent) luting compounds to prevent door leaks, and other operating practices and technologies for their effectiveness in reducing coke oven emissions, and their suitability for use on new and existing coke oven batteries, taking into account costs and reasonable commercial door warranties; and

(ii) as a basis for emission standards under this subsection for new coke oven batteries that begin construction after the date of proposal of such standards, the Jewell design Thompson nonrecovery coke oven batteries and other nonrecovery coke oven technologies, and other appropriate emission control and coke production technologies, as to their effectiveness in reducing coke oven emissions and their capability for production of steel quality coke.

Such regulations shall require at a minimum that coke oven batteries will not exceed 8 per centum leaking doors, 1 per centum leaking lids, 5 per centum leaking offtakes, and 16 seconds visible emissions per charge, with no exclusion for emissions during the period after the dosing of self-sealing oven doors. Notwithstanding subsection (i)

of this section, the compliance date for such emission standards for existing coke oven batteries shall be December 31, 1995.

(B) The Administrator shall promulgate work practice regulations under this subsection for coke oven batteries requiring, as appropriate –

(i) the use of sodium silicate (or equivalent) luting compounds, if the Administrator determines that use of sodium silicate is an effective means of emissions control and is achievable, taking into account costs and reasonable commercial warranties for doors and related equipment; and

(ii) door and jam cleaning practices.

Notwithstanding subsection (i) of this section, the compliance date for such work practice regulations for coke oven batteries shall be not later than the date 3 years after November 15, 1990.

(C) For coke oven batteries electing to qualify for an extension of the compliance date for standards promulgated under subsection (f) of this section in accordance with subsection (i)(8) of this section, the emission standards under this subsection for coke oven batteries shall require that coke oven batteries not exceed 8 per centum leaking doors, 1 per centum leaking lids, 5 per centum leaking offtakes, and 16 seconds visible emissions per charge, with no exclusion for emissions during the period after the closing of self-sealing doors. Notwithstanding subsection (i) of this section, the compliance date for such emission standards for existing coke oven batteries seeking an extension shall be not later than the date 3 years after November 15, 1990.

(9) Sources licensed by the Nuclear Regulatory Commission

No standard for radionuclide emissions from any category or subcategory of facilities licensed by the Nuclear Regulatory Commission (or an Agreement State) is required to be promulgated under this section if the Administrator determines, by rule, and after consultation with the Nuclear Regulatory Commission, that the regulatory program established by the Nuclear Regulatory Commission pursuant to the Atomic Energy Act (42 U.S.C. 2011 et seq.) for such category or subcategory provides an ample margin of safety to protect the public health. Nothing in this subsection shall preclude or deny the right of any State or political subdivision thereof to adopt or enforce any standard or limitation respecting emissions of radionuclides which is more stringent than the standard or limitation in effect under section 7411 of this title or this section.

(10) Effective date

Emission standards or other regulations promulgated under this subsection shall be effective upon promulgation.

6. Section 112(h) of the Clean Air Act, 42 U.S.C. § 7412 (h), provides:

Work practice standards and other requirements

(1) In general

For purposes of this section, if it is not feasible in the judgment of the Administrator to prescribe or enforce an emission standard for control of a

hazardous air pollutant or pollutants, the Administrator may, in lieu thereof, promulgate a design, equipment, work practice, or operational standard, or combination thereof, which in the Administrator's judgment is consistent with the provisions of subsection (d) or (f) of this section. In the event the Administrator promulgates a design or equipment standard under this subsection, the Administrator shall include as part of such standard such requirements as will assure the proper operation and maintenance of any such element of design or equipment.

(2) Definition

For the purpose of this subsection, the phrase "not feasible to prescribe or enforce an emission standard" means any situation in which the Administrator determines that –

(A) a hazardous air pollutant or pollutants cannot be emitted through a conveyance designed and constructed to emit or capture such pollutant, or that any requirement for, or use of, such a conveyance would be inconsistent with any Federal, State or local law, or

(B) the application of measurement methodology to a particular class of sources is not practicable due to technological and economic limitations.

(3) Alternative standard

If after notice and opportunity for comment, the owner or operator of any source establishes to the satisfaction of the Administrator that an alternative means of emission limitation will achieve a reduction in emissions of any air pollutant at least equivalent to the reduction in

emissions of such pollutant achieved under the requirements of paragraph (1), the Administrator shall permit the use of such alternative by the source for purposes of compliance with this section with respect to such pollutant.

(4) Numerical standard required

Any standard promulgated under paragraph (1) shall be promulgated in terms of an emission standard whenever it is feasible to promulgate and enforce a standard in such terms.

7. Section 113(c) of the Clean Air Act, 42 U.S.C. § 7413 (c), provides in part:

Criminal penalties

(1) Any person who knowingly violates any requirement or prohibition of an applicable implementation plan (during any period of federally assumed enforcement or more than 30 days after having been notified under subsection (a)(1) of this section by the Administrator that such person is violating such requirement or prohibition), any order under subsection (a) of this section, requirement or prohibition of section 7411(e) of this title (relating to new source performance standards), section 7412 of this title, section 7414 of this title (relating to inspections, etc.), section 7429 of this title (relating to solid waste combustion), section 7475(a) of this title (relating to preconstruction requirements), an order under section 7477 of this title (relating to preconstruction requirements), an order under section 7603 of this title (relating to emergency orders), section 7661a(a) or 7661b(c) of this title (relating to permits), or any requirement or prohibition of subchapter IV-A of this chapter (relating to acid

deposition control), or subchapter VI of this chapter (relating to stratospheric ozone control), including a requirement of any rule, order, waiver, or permit promulgated or approved under such sections or subchapters, and including any requirement for the payment of any fee owed the United States under this chapter (other than subchapter II of this chapter) shall, upon conviction, be punished by a fine pursuant to title 18 or by imprisonment for not to exceed 5 years, or both. If a conviction of any person under this paragraph is for a violation committed after a first conviction of such person under this paragraph, the maximum punishment shall be doubled with respect to both the fine and imprisonment.

(2) Any person who knowingly –

(A) makes any false material statement, representation, or certification in, or omits material information from, or knowingly alters, conceals, or fails to file or maintain any notice, application, record, report, plan, or other document required pursuant to this chapter to be either filed or maintained (whether with respect to the requirements imposed by the Administrator or by a State);

(B) fails to notify or report as required under this chapter; or

(C) falsifies, tampers with, renders inaccurate, or fails to install any monitoring device or method required to be maintained or followed under this chapter [2] shall, upon conviction, be punished by a fine pursuant to title 18 or by imprisonment for not more than 2 years, or both. If a conviction of any person under this paragraph

is for a violation committed after a first conviction of such person under this paragraph, the maximum punishment shall be doubled with respect to both the fine and imprisonment.

(3) Any person who knowingly fails to pay any fee owed the United States under this subchapter, subchapter III, IV-A, V, or VI of this chapter shall, upon conviction, be punished by a fine pursuant to title 18 or by imprisonment for not more than 1 year, or both. If a conviction of any person under this paragraph is for a violation committed after a first conviction of such person under this paragraph, the maximum punishment shall be doubled with respect to both the fine and imprisonment.

(4) Any person who negligently releases into the ambient air any hazardous air pollutant listed pursuant to section 7412 of this title or any extremely hazardous substance listed pursuant to section 11002(a)(2) of this title that is not listed in section 7412 of this title, and who at the time negligently places another person in imminent danger of death or serious bodily injury shall, upon conviction, be punished by a fine under title 18 or by imprisonment for not more than 1 year, or both. If a conviction of any person under this paragraph is for a violation committed after a first conviction of such person under this paragraph, the maximum punishment shall be doubled with respect to both the fine and imprisonment.

(5)(A) Any person who knowingly releases into the ambient air any hazardous air pollutant listed pursuant to section 7412 of this title or any extremely hazardous substance listed pursuant to section 11002(a)(2) of this title that is not

listed in section 7412 of this title, and who knows at the time that he thereby places another person in imminent danger of death or serious bodily injury shall, upon conviction, be punished by a fine under title 18 or by imprisonment of not more than 15 years, or both. Any person committing such violation which is an organization shall, upon conviction under this paragraph, be subject to a fine of not more than $1,000,000 for each violation. If a conviction of any person under this paragraph is for a violation committed after a first conviction of such person under this paragraph, the maximum punishment shall be doubled with respect to both the fine and imprisonment. For any air pollutant for which the Administrator has set an emissions standard or for any source for which a permit has been issued under subchapter V of this chapter, a release of such pollutant in accordance with that standard or permit shall not constitute a violation of this paragraph or paragraph (4).

(B) In determining whether a defendant who is an individual knew that the violation placed another person in imminent danger of death or serious bodily injury –

(i) the defendant is responsible only for actual awareness or actual belief possessed; and

(ii) knowledge possessed by a person other than the defendant, but not by the defendant, may not be attributed to the defendant;

except that in proving a defendant's possession of actual knowledge, circumstantial evidence may be used, including evidence that the defendant took affirmative steps to be shielded from relevant information.

(C) It is an affirmative defense to a prosecution that the conduct charged was freely consented to by the person endangered and that the danger and conduct charged were reasonably foreseeable hazards of –

(i) an occupation, a business, or a profession; or

(ii) medical treatment or medical or scientific experimentation conducted by professionally approved methods and such other person had been made aware of the risks involved prior to giving consent.

The defendant may establish an affirmative defense under this subparagraph by a preponderance of the evidence.

(D) All general defenses, affirmative defenses, and bars to prosecution that may apply with respect to other Federal criminal offenses may apply under subparagraph (A) of this paragraph and shall be determined by the courts of the United States according to the principles of common law as they may be interpreted in the light of reason and experience. Concepts of justification and excuse applicable under this section may be developed in the light of reason and experience.

(E) The term "organization" means a legal entity, other than a government, established or organized for any purpose, and such term includes a corporation, company, association, firm, partnership, joint stock company, foundation, institution, trust, society, union, or any other association of persons.

(F) The term "serious bodily injury" means bodily injury which involves a substantial risk of

death, unconsciousness, extreme physical pain, protracted and obvious disfigurement or protracted loss or impairment of the function of a bodily member, organ, or mental faculty.

(6) For the purpose of this subsection, the term "person" includes, in addition to the entities referred to in section 7602(e) of this title, any responsible corporate officer.

8. Section 114(a) of the Clean Air Act, 42 U.S.C. § 7414(a), provides:

(a) Authority of Administrator or authorized representative

For the purpose

(i) of developing or assisting in the development of any implementation plan under section 7410 or section 7411(d) of this title, any standard of performance under section 7411 of this title, any emission standard under section 7412 of this title, or any regulation of solid waste combustion under section 7429 of this title, or any regulation under section 7429 of this title (relating to solid waste combustion),

(ii) of determining whether any person is in violation of any such standard or any requirement of such a plan, or

(iii) carrying out any provision of this chapter (except a provision of subchapter II of this chapter with respect to a manufacturer of new motor vehicles or new motor vehicle engines) –

(1) the Administrator may require any person who owns or operates any emission source, who manufactures emission control equipment or process equipment, who the Administrator believes

may have information necessary for the purposes set forth in this subsection, or who is subject to any requirement of this chapter (other than a manufacturer subject to the provisions of section 7525(c) or 7542 of this title with respect to a provision of subchapter II of this chapter) on a one-time, periodic or continuous basis to –

(A) establish and maintain such records;

(B) make such reports;

(C) install, use, and maintain such monitoring equipment, and use such audit procedures, or methods;

(D) sample such emissions (in accordance with such procedures or methods, at such locations, at such intervals, during such periods and in such manner as the Administrator shall prescribe);

(E) keep records on control equipment parameters, production variables or other indirect data when direct monitoring of emissions is impractical;

(F) submit compliance certifications in accordance with subsection (a)(3) of this section; and

(G) provide such other information as the Administrator may reasonably require; and

(2) the Administrator or his authorized representative, upon presentation of his credentials –

(A) shall have a right of entry to, upon, or through any premises of such person or in which any records required to be maintained under paragraph (1) of this section are located, and

(B) may at reasonable times have access to and copy any records, inspect any monitoring equipment or method required under paragraph (1), and sample any emissions which such person is required to sample under paragraph (1).

(3) The Administrator shall in the case of any person which is the owner or operator of a major stationary source, and may, in the case of any other person, require enhanced monitoring and submission of compliance certifications. Compliance certifications shall include

(A) identification of the applicable requirement that is the basis of the certification,

(B) the method used for determining the compliance status of the source,

(C) the compliance status,

(D) whether compliance is continuous or intermittent,

(E) such other facts as the Administrator may require. Compliance certifications and monitoring data shall be subject to subsection (c) of this section. Submission of a compliance certification shall in no way limit the Administrator's authorities to investigate or otherwise implement this chapter. The Administrator shall promulgate rules to provide guidance and to implement this paragraph within 2 years after November 15, 1990.

9. Title 40, Code of Federal Regulations, Section 61.141 provides:

Definitions.

All terms that are used in this subpart and are not defined below are given the same meaning as in the Act and in subpart A of this part.

Active waste disposal site means any disposal site other than an inactive site.

Adequately wet means sufficiently mix or penetrate with liquid to prevent the release of particulates. If visible emissions are observed coming from asbestos-containing material, then that material has not been adequately wetted. However, the absence of visible emissions is not sufficient evidence of being adequately wet.

Asbestos means the asbestiform varieties of serpentinite (chrysotile), riebeckite (crocidolite), cummingtonite-grunerite, anthophyllite, and actinolite-tremolite.

Asbestos-containing waste materials means mill tailings or any waste that contains commercial asbestos and is generated by a source subject to the provisions of this subpart. This term includes filters from control devices, friable asbestos waste material, and bags or other similar packaging contaminated with commercial asbestos. As applied to demolition and renovation operations, this term also includes regulated asbestos-containing material waste and materials contaminated with asbestos including disposable equipment and clothing.

Asbestos mill means any facility engaged in converting, or in any intermediate step in converting, asbestos ore into commercial asbestos. Outside storage of asbestos material is not considered a part of the asbestos mill.

Asbestos tailings means any solid waste that contains asbestos and is a product of asbestos mining or milling operations.

Asbestos waste from control devices means any waste material that contains asbestos and is collected by a pollution control device.

Category I nonfriable asbestos-containing material (ACM) means asbestos-containing packings, gaskets, resilient floor covering, and asphalt roofing products containing more than 1 percent asbestos as determined using the method specified in appendix E, subpart E, 40 CFR part 763, section 1, Polarized Light Microscopy.

Category II nonfriable ACM means any material, excluding Category I nonfriable ACM, containing more than 1 percent asbestos as determined using the methods specified in appendix E, subpart E, 40 CFR part 763, section 1, Polarized Light Microscopy that, when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure.

Commercial asbestos means any material containing asbestos that is extracted from ore and has value because of its asbestos content.

Cutting means to penetrate with a sharp-edged instrument and includes sawing, but does not include shearing, slicing, or punching.

Demolition means the wrecking or taking out of any load-supporting structural member of a facility together with any related handling operations or the intentional burning of any facility.

Emergency renovation operation means a renovation operation that was not planned but results from a sudden, unexpected event that, if

not immediately attended to, presents a safety or public health hazard, is necessary to protect equipment from damage, or is necessary to avoid imposing an unreasonable financial burden. This term includes operations necessitated by non-routine failures of equipment.

Fabricating means any processing (e.g., cutting, sawing, drilling) of a manufactured product that contains commercial asbestos, with the exception of processing at temporary sites (field fabricating) for the construction or restoration of facilities. In the case of friction products, fabricating includes bonding, debonding, grinding, sawing, drilling, or other similar operations performed as part of fabricating.

Facility means any institutional, commercial, public, industrial, or residential structure, installation, or building (including any structure, installation, or building containing condominiums or individual dwelling units operated as a residential cooperative, but excluding residential buildings having four or fewer dwelling units); any ship; and any active or inactive waste disposal site. For purposes of this definition, any building, structure, [Page 92] or installation that contains a loft used as a dwelling is not considered a residential structure, installation, or building. Any structure, installation or building that was previously subject to this subpart is not excluded, regardless of its current use or function.

Facility component means any part of a facility including equipment.

Friable asbestos material means any material containing more than 1 percent asbestos as

determined using the method specified in appendix E, subpart E, 40 CFR part 763, section 1, Polarized Light Microscopy, that, when dry, can be crumbled, pulverized, or reduced to powder by hand pressure. If the asbestos content is less than 10 percent as determined by a method other than point counting by polarized light microscopy (PLM), verify the asbestos content by point counting using PLM.

Fugitive source means any source of emissions not controlled by an air pollution control device.

Glove bag means a sealed compartment with attached inner gloves used for the handling of asbestos-containing materials. Properly installed and used, glove bags provide a small work area enclosure typically used for small-scale asbestos stripping operations. Information on glove-bag installation, equipment and supplies, and work practices is contained in the Occupational Safety and Health Administration's (OSHA's) final rule on occupational exposure to asbestos (appendix G to 29 CFR 1926.58).

Grinding means to reduce to powder or small fragments and includes mechanical chipping or drilling.

In poor condition means the binding of the material is losing its integrity as indicated by peeling, cracking, or crumbling of the material.

Inactive waste disposal site means any disposal site or portion of it where additional asbestos-containing waste material has not been deposited within the past year.

Installation means any building or structure or any group of buildings or structures at a single demolition or renovation site that are under the control of the same owner or operator (or owner or operator under common control).

Leak-tight means that solids or liquids cannot escape or spill out. It also means dust-tight.

Malfunction means any sudden and unavoidable failure of air pollution control equipment or process equipment or of a process to operate in a normal or usual manner so that emissions of asbestos are increased. Failures of equipment shall not be considered malfunctions if they are caused in any way by poor maintenance, careless operation, or any other preventable upset conditions, equipment breakdown, or process failure.

Manufacturing means the combining of commercial asbestos – or, in the case of woven friction products, the combining of textiles containing commercial asbestos – with any other material(s), including commercial asbestos, and the processing of this combination into a product. Chlorine production is considered a part of manufacturing.

Natural barrier means a natural object that effectively precludes or deters access. Natural barriers include physical obstacles such as cliffs, lakes or other large bodies of water, deep and wide ravines, and mountains. Remoteness by itself is not a natural barrier.

Nonfriable asbestos-containing material means any material containing more than 1 percent asbestos as determined using the method specified in appendix E, subpart E, 40 CFR part

763, section 1, Polarized Light Microscopy, that, when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure.

Nonscheduled renovation operation means a enovation operation necessitated by the routine failure of equipment, which is expected to occur within a given period based on past operating experience, but for which an exact date cannot be predicted.

Outside air means the air outside buildings and structures, including, but not limited to, the air under a bridge or in an open air ferry dock.

Owner or operator of a demolition or renovation activity means any person who owns, leases, operates, controls, or supervises the facility being demolished or renovated or any person who owns, leases, operates, controls, or supervises the demolition or renovation operation, or both. [Page 93]

Particulate asbestos material means finely divided particles of asbestos or material containing asbestos.

Planned renovation operations means a renovation operation, or a number of such operations, in which some RACM will be removed or stripped within a given period of time and that can be predicted. Individual nonscheduled operations are included if a number of such operations can be predicted to occur during a given period of time based on operating experience.

Regulated asbestos-containing material (RACM) means (a) Friable asbestos material, (b) Category I nonfriable ACM that has become friable, (c) Category I nonfriable ACM that will be

or has been subjected to sanding, grinding, cutting, or abrading, or (d) Category II nonfriable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of demolition or renovation operations regulated by this subpart.

Remove means to take out RACM or facility components that contain or are covered with RACM from any facility.

Renovation means altering a facility or one or more facility components in any way, including the stripping or removal of RACM from a facility component. Operations in which load-supporting structural members are wrecked or taken out are demolitions.

Resilient floor covering means asbestos-containing floor tile, including asphalt and vinyl floor tile, and sheet vinyl floor covering containing more than 1 percent asbestos as determined using polarized light microscopy according to the method specified in appendix E, subpart E, 40 CFR part 763, section 1, Polarized Light Microscopy.

Roadways means surfaces on which vehicles travel. This term includes public and private highways, roads, streets, parking areas, and driveways.

Strip means to take off RACM from any part of a facility or facility components.

Structural member means any load-supporting member of a facility, such as beams and load supporting walls; or any nonload-supporting

member, such as ceilings and nonload-supporting walls.

Visible emissions means any emissions, which are visually detectable without the aid of instruments, coming from RACM or asbestos-containing waste material, or from any asbestos milling, manufacturing, or fabricating operation. This does not include condensed, uncombined water vapor.

Waste generator means any owner or operator of a source covered by this subpart whose act or process produces asbestos-containing waste material.

Waste shipment record means the shipping document, required to be originated and signed by the waste generator, used to track and substantiate the disposition of asbestos-containing waste material.

Working day means Monday through Friday and includes holidays that fall on any of the days Monday through Friday.

[49 FR 13661, Apr. 5, 1984; 49 FR 25453, June 21, 1984, as amended by 55 FR 48414, Nov. 20, 1990; 56 FR 1669, Jan. 16, 1991; 60 FR 31920, June 19, 1995]

10. Title 40, Code of Federal Regulations, Section 61.145 provides:

Standard for demolition and renovation.

(a) Applicability. To determine which requirements of paragraphs (a), (b), and (c) of this section apply to the owner or operator of a demolition or renovation activity and prior to the commencement of the demolition or renovation,

thoroughly inspect the affected facility or part of the facility where the demolition or renovation operation will occur for the presence of asbestos, including Category I and Category II nonfriable ACM. The requirements of paragraphs (b) and (c) of this section apply to each owner or operator of a demolition or renovation activity, including the removal of RACM as follows:

(1) In a facility being demolished, all the requirements of paragraphs (b) and (c) of this section apply, except as provided in paragraph (a)(3) of this section, if the combined amount of RACM is

(i) At least 80 linear meters (260 linear feet) on pipes or at least 15 square meters (160 square feet) on other facility components, or

(ii) At least 1 cubic meter (35 cubic feet) off facility components where the length or area could not be measured previously.

(2) In a facility being demolished, only the notification requirements of paragraphs (b)(1), (2), (3)(i) and (iv), and (4)(i) through (vii) and (4)(ix) and (xvi) of this section apply, if the combined amount of RACM is

(i) Less than 80 linear meters (260 linear feet) on pipes and less than 15 square meters (160 square feet) on other facility components, and

(ii) Less than one cubic meter (35 cubic feet) off facility components where the length or area could not be measured previously or there is no asbestos.

(3) If the facility is being demolished under an order of a State or local government agency,

issued because the facility is structurally unsound and in danger of imminent collapse, only the requirements of paragraphs (b)(1), (b)(2), (b)(3)(iii), (b)(4) (except (b)(4)(viii)), (b)(5), and (c)(4) through (c)(9) of this section apply.

(4) In a facility being renovated, including any individual nonscheduled renovation operation, all the requirements of paragraphs (b) and (c) of this section apply if the combined amount of RACM to be stripped, removed, dislodged, cut, drilled, or similarly disturbed is

(i) At least 80 linear meters (260 linear feet) on pipes or at least 15 square meters (160 square feet) on other facility components, or

(ii) At least 1 cubic meter (35 cubic feet) off facility components where the length or area could not be measured previously.

(iii) To determine whether paragraph (a)(4) of this section applies to planned renovation operations involving individual nonscheduled operations, predict the combined additive amount of RACM to be removed or stripped during a calendar year of January 1 through December 31.

(iv) To determine whether paragraph (a)(4) of this section applies to emergency renovation operations, estimate the combined amount of RACM to be removed or stripped as a result of the sudden, unexpected event that necessitated the renovation.

(5) Owners or operators of demolition and renovation operations are exempt from the requirements of Secs. 61.05(a), 61.07, and 61.09.

(b) Notification requirements. Each owner or operator of a demolition or renovation activity to which this section applies shall:

(1) Provide the Administrator with written notice of intention to demolish or renovate. Delivery of the notice by U.S. Postal Service, commercial delivery service, or hand delivery is acceptable.

(2) Update notice, as necessary, including when the amount of asbestos affected changes by at least 20 percent.

(3) Postmark or deliver the notice as follows:

(i) At least 10 working days before asbestos stripping or removal work or any other activity begins (such as site [Page 99] preparation that would break up, dislodge or similarly disturb asbestos material), if the operation is described in paragraphs (a) (1) and (4) (except (a)(4)(iii) and (a)(4)(iv)) of this section. If the operation is as described in paragraph (a)(2) of this section, notification is required 10 working days before demolition begins.

(ii) At least 10 working days before the end of the calendar year preceding the year for which notice is being given for renovations described in paragraph (a)(4)(iii) of this section.

(iii) As early as possible before, but not later than, the following working day if the operation is a demolition ordered according to paragraph (a)(3) of this section or, if the operation is a renovation described in paragraph (a)(4)(iv) of this section.

(iv) For asbestos stripping or removal work in a demolition or renovation operation, described in paragraphs (a) (1) and (4) (except (a)(4)(iii) and (a)(4)(iv)) of this section, and for a demolition described in paragraph (a)(2) of this section, that will begin on a date other than the one contained in the original notice, notice of the new start date must be provided to the Administrator as follows:

(A) When the asbestos stripping or removal operation or demolition operation covered by this paragraph will begin after the date contained in the notice,

(1) Notify the Administrator of the new start date by telephone as soon as possible before the original start date, and

(2) Provide the Administrator with a written notice of the new start date as soon as possible before, and no later than, the original start date. Delivery of the updated notice by the U.S. Postal Service, commercial delivery service, or hand delivery is acceptable.

(B) When the asbestos stripping or removal operation or demolition operation covered by this paragraph will begin on a date earlier than the original start date,

(1) Provide the Administrator with a written notice of the new start date at least 10 working days before asbestos stripping or removal work begins.

(2) For demolitions covered by paragraph (a)(2) of this section, provide the Administrator written notice of a new start date at least 10 working days before commencement of demolition.

Delivery of updated notice by U.S. Postal Service, commercial delivery service, or hand delivery is acceptable.

(C) In no event shall an operation covered by this paragraph begin on a date other than the date contained in the written notice of the new start date.

(4) Include the following in the notice:

(i) An indication of whether the notice is the original or a revised notification.

(ii) Name, address, and telephone number of both the facility owner and operator and the asbestos removal contractor owner or operator.

(iii) Type of operation: demolition or renovation.

(iv) Description of the facility or affected part of the facility including the size (square meters [square feet] and number of floors), age, and present and prior use of the facility.

(v) Procedure, including analytical methods, employed to detect the presence of RACM and Category I and Category II nonfriable ACM.

(vi) Estimate of the approximate amount of RACM to be removed from the facility in terms of length of pipe in linear meters (linear feet), surface area in square meters (square feet) on other facility components, or volume in cubic meters (cubic feet) if off the facility components. Also, estimate the approximate amount of Category I and Category II nonfriable ACM in the affected part of the facility that will not be removed before demolition.

(vii) Location and street address (including building number or name and floor or room number, if appropriate), city, county, and state, of the facility being demolished or renovated.

(viii) Scheduled starting and completion dates of asbestos removal work (or any other activity, such as site preparation that would break up, dislodge, or similarly disturb asbestos material) in a demolition or renovation; planned renovation operations involving individual nonscheduled operations shall only include the beginning and ending dates of the report period as described in paragraph (a)(4)(iii) of this section. [Page 100]

(ix) Scheduled starting and completion dates of demolition or renovation.

(x) Description of planned demolition or renovation work to be performed and method(s) to be employed, including demolition or renovation techniques to be used and description of affected facility components.

(xi) Description of work practices and engineering controls to be used to comply with the requirements of this subpart, including asbestos removal and waste-handling emission control procedures.

(xii) Name and location of the waste disposal site where the asbestos-containing waste material will be deposited.

(xiii) A certification that at least one person trained as required by paragraph (c)(8) of this section will supervise the stripping and removal described by this notification. This requirement

shall become effective 1 year after promulgation of this regulation.

(xiv) For facilities described in paragraph (a)(3) of this section, the name, title, and authority of the State or local government representative who has ordered the demolition, the date that the order was issued, and the date on which the demolition was ordered to begin. A copy of the order shall be attached to the notification.

(xv) For emergency renovations described in paragraph (a)(4)(iv) of this section, the date and hour that the emergency occurred, a description of the sudden, unexpected event, and an explanation of how the event caused an unsafe condition, or would cause equipment damage or an unreasonable financial burden.

(xvi) Description of procedures to be followed in the event that unexpected RACM is found or Category II nonfriable ACM becomes crumbled, pulverized, or reduced to powder.

(xvii) Name, address, and telephone number of the waste transporter.

(5) The information required in paragraph (b)(4) of this section must be reported using a form similiar to that shown in Figure 3.

(c) Procedures for asbestos emission control. Each owner or operator of a demolition or renovation activity to whom this paragraph applies, according to paragraph (a) of this section, shall comply with the following procedures:

(1) Remove all RACM from a facility being demolished or renovated before any activity begins that would break up, dislodge, or similarly disturb the material or preclude access to the

material for subsequent removal. RACM need not be removed before demolition if:

(i) It is Category I nonfriable ACM that is not in poor condition and is not friable.

(ii) It is on a facility component that is encased in concrete or other similarly hard material and is adequately wet whenever exposed during demolition; or

(iii) It was not accessible for testing and was, therefore, not discovered until after demolition began and, as a result of the demolition, the material cannot be safely removed. If not removed for safety reasons, the exposed RACM and any asbestos-contaminated debris must be treated as asbestos-containing waste material and adequately wet at all times until disposed of.

(iv) They are Category II nonfriable ACM and the probability is low that the materials will become crumbled, pulverized, or reduced to powder during demolition.

(2) When a facility component that contains, is covered with, or is coated with RACM is being taken out of the facility as a unit or in sections:

(i) Adequately wet all RACM exposed during cutting or disjoining operations; and

(ii) Carefully lower each unit or section to the floor and to ground level, not dropping, throwing, sliding, or otherwise damaging or disturbing the RACM.

(3) When RACM is stripped from a facility component while it remains in place in the facility, adequately wet the RACM during the stripping operation.

(i) In renovation operations, wetting is not required if:

(A) The owner or operator has obtained prior written approval from the Administrator based on a written application that wetting to comply with [Page 101] this paragraph would unavoidably damage equipment or present a safety hazard; and

(B) The owner or operator uses of the following emission control methods:

(1) A local exhaust ventilation and collection system designed and operated to capture the particulate asbestos material produced by the stripping and removal of the asbestos materials. The system must exhibit no visible emissions to the outside air or be designed and operated in accordance with the requirements in Sec. 61.152.

(2) A glove-bag system designed and operated to contain the particulate asbestos material produced by the stripping of the asbestos materials.

(3) Leak-tight wrapping to contain all RACM prior to dismantlement.

(ii) In renovation operations where wetting would result in equipment damage or a safety hazard, and the methods allowed in paragraph (c)(3)(i) of this section cannot be used, another method may be used after obtaining written approval from the Administrator based upon a determination that it is equivalent to wetting in

controlling emissions or to the methods allowed in paragraph (c)(3)(i) of this section.

(iii) A copy of the Administrator's written approval shall be kept at the worksite and made available for inspection.

(4) After a facility component covered with, coated with, or containing RACM has been taken out of the facility as a unit or in sections pursuant to paragraph (c)(2) of this section, it shall be stripped or contained in leak-tight wrapping, except as described in paragraph (c)(5) of this section. If stripped, either:

(i) Adequately wet the RACM during stripping; or

(ii) Use a local exhaust ventilation and collection system designed and operated to capture the particulate asbestos material produced by the stripping. The system must exhibit no visible emissions to the outside air or be designed and operated in accordance with the requirements in Sec. 61.152.

(5) For large facility components such as reactor vessels, large tanks, and steam generators, but not beams (which must be handled in accordance with paragraphs (c)(2), (3), and (4) of this section), the RACM is not required to be stripped if the following requirements are met:

(i) The component is removed, transported, stored, disposed of, or reused without disturbing or damaging the RACM.

(ii) The component is encased in a leak-tight wrapping.

(iii) The leak-tight wrapping is labeled according to Sec. 61.149(d)(1)(i), (ii), and (iii) during all loading and unloading operations and during storage.

(6) For all RACM, including material that has been removed or stripped:

(i) Adequately wet the material and ensure that it remains wet until collected and contained or treated in preparation for disposal in accordance with Sec. 61.150; and

(ii) Carefully lower the material to the ground and floor, not dropping, throwing, sliding, or otherwise damaging or disturbing the material.

(iii) Transport the material to the ground via leak-tight chutes or containers if it has been removed or stripped more than 50 feet above ground level and was not removed as units or in sections.

(iv) RACM contained in leak-tight wrapping that has been removed in accordance with paragraphs (c)(4) and (c)(3)(i)(B)(3) of this section need not be wetted.

(7) When the temperature at the point of wetting is below 0 deg. C (32 deg.F):

(i) The owner or operator need not comply with paragraph (c)(2)(i) and the wetting provisions of paragraph (c)(3) of this section.

(ii) The owner or operator shall remove facility components containing, coated with, or covered with RACM as units or in sections to the maximum extent possible.

(iii) During periods when wetting operations are suspended due to freezing temperatures, the owner or operator must record the temperature in the area containing the facility components at the beginning, middle, and end of each workday and keep daily temperature records available for inspection by the Administrator during normal business hours at the demolition [Page 102] or renovation site. The owner or operator shall retain the temperature records for at least 2 years.

(8) Effective 1 year after promulgation of this regulation, no RACM shall be stripped, removed, or otherwise handled or disturbed at a facility regulated by this section unless at least one on-site representative, such as a foreman or management-level person or other authorized representative, trained in the provisions of this regulation and the means of complying with them, is present. Every 2 years, the trained on-site individual shall receive refresher training in the provisions of this regulation. The required training shall include as a minimum: applicability; notifications; material identification; control procedures for removals including, at least, wetting, local exhaust ventilation, negative pressure enclosures, glove-bag procedures, and High Efficiency Particulate Air (HEPA) filters; waste disposal work practices; reporting and record-keeping; and asbestos hazards and worker protection. Evidence that the required training has been completed shall be posted and made available for inspection by the Administrator at the demolition or renovation site.

(9) For facilities described in paragraph (a)(3) of this section, adequately wet the portion

of the facility that contains RACM during the wrecking operation.

(10) If a facility is demolished by intentional burning, all RACM including Category I and Category II nonfriable ACM must be removed in accordance with the NESHAP before burning.

[Page 103] [GRAPHIC] [TIFF OMITTED] TC01MY92.002

[Page 104] [GRAPHIC] [TIFF OMITTED] TC01MY92.003

[55 FR 48419, Nov. 20, 1990; 56 FR 1669, Jan. 16, 1991]

10. Title 40, Code of Federal Regulations, Section 61.150 provides:

Standard for waste disposal for manufacturing, fabricating, demolition, renovation, and spraying operations.

Each owner or operator of any source covered under the provisions of Secs. 61.144, 61.145, 61.146, and 61.147 shall comply with the following provisions:

(a) Discharge no visible emissions to the outside air during the collection, processing (including incineration), packaging, or transporting of any asbestos-containing waste material generated by the source, or use one of the emission control and waste treatment methods specified in paragraphs (a) (1) through (4) of this section.

(1) Adequately wet asbestos-containing waste material as follows:

(i) Mix control device asbestos waste to form a slurry; adequately wet other asbestos-containing waste material; and

(ii) Discharge no visible emissions to the outside air from collection, mixing, wetting, and handling operations, or use the methods specified by Sec. 61.152 to clean emissions containing particulate asbestos material before they escape to, or are vented to, the outside air; and

(iii) After wetting, seal all asbestos-containing waste material in leak-tight containers while wet; or, for materials that will not fit into containers without additional breaking, put materials into leak-tight wrapping; and

(iv) Label the containers or wrapped materials specified in paragraph (a)(1)(iii) of this section using warning labels specified by Occupational Safety and Health Standards of the Department of Labor, Occupational Safety and Health Administration (OSHA) under 29 CFR 1910.1001(j)(2) or 1926.58(k)(2)(iii). The labels shall be printed in letters of sufficient size and contrast so as to be readily visible and legible.

(v) For asbestos-containing waste material to be transported off the facility site, label containers or wrapped materials with the name of the waste generator and the location at which the waste was generated. [Page 111]

(2) Process asbestos-containing waste material into nonfriable forms as follows:

(i) Form all asbestos-containing waste material into nonfriable pellets or other shapes;

(ii) Discharge no visible emissions to the outside air from collection and processing operations, including incineration, or use the method specified by Sec. 61.152 to clean emissions containing particulate asbestos material before they escape to, or are vented to, the outside air.

(3) For facilities demolished where the RACM is not removed prior to demolition according to Secs. 61.145(c)(1) (i), (ii), (iii), and (iv) or for facilities demolished according to Sec. 61.145(c)(9), adequately wet asbestos-containing waste material at all times after demolition and keep wet during handling and loading for transport to a disposal site. Asbestos-containing waste materials covered by this paragraph do not have to be sealed in leak-tight containers or wrapping but may be transported and disposed of in bulk.

(4) Use an alternative emission control and waste treatment method that has received prior approval by the Administrator according to the procedure described in Sec. 61.149(c)(2).

(5) As applied to demolition and renovation, the requirements of paragraph (a) of this section do not apply to Category I nonfriable ACM waste and Category II nonfriable ACM waste that did not become crumbled, pulverized, or reduced to powder.

(b) All asbestos-containing waste material shall be deposited as soon as is practical by the waste generator at:

(1) A waste disposal site operated in accordance with the provisions of Sec. 61.154, or

(2) An EPA-approved site that converts RACM and asbestos-containing waste material

into nonasbestos (asbestos-free) material according to the provisions of Sec. 61.155.

(3) The requirements of paragraph (b) of this section do not apply to Category I nonfriable ACM that is not RACM.

(c) Mark vehicles used to transport asbestos-containing waste material during the loading and unloading of waste so that the signs are visible. The markings must conform to the requirements of Secs. 61.149(d)(1) (i), (ii), and (iii).

(d) For all asbestos-containing waste material transported off the facility site:

(1) Maintain waste shipment records, using a form similar to that shown in Figure 4, and include the following information:

(i) The name, address, and telephone number of the waste generator.

(ii) The name and address of the local, State, or EPA Regional office responsible for administering the asbestos NESHAP program.

(iii) The approximate quantity in cubic meters (cubic yards).

(iv) The name and telephone number of the disposal site operator.

(v) The name and physical site location of the disposal site.

(vi) The date transported.

(vii) The name, address, and telephone number of the transporter(s).

(viii) A certification that the contents of this consignment are fully and accurately described by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations.

(2) Provide a copy of the waste shipment record, described in paragraph (d)(1) of this section, to the disposal site owners or operators at the same time as the asbestos-containing waste material is delivered to the disposal site.

(3) For waste shipments where a copy of the waste shipment record, signed by the owner or operator of the designated disposal site, is not received by the waste generator within 35 days of the date the waste was accepted by the initial transporter, contact the transporter and/or the owner or operator of the designated disposal site to determine the status of the waste shipment.

(4) Report in writing to the local, State, or EPA Regional office responsible for administering the asbestos NESHAP program for the waste generator if a copy of the waste shipment record, signed by the owner or operator of the designated waste disposal site, is not received by the waste generator within 45 days of the date the waste [Page 112] was accepted by the initial transporter. Include in the report the following information:

(i) A copy of the waste shipment record for which a confirmation of delivery was not received, and

(ii) A cover letter signed by the waste generator explaining the efforts taken to locate the

asbestos waste shipment and the results of those efforts.

(5) Retain a copy of all waste shipment records, including a copy of the waste shipment record signed by the owner or operator of the designated waste disposal site, for at least 2 years.

(e) Furnish upon request, and make available for inspection by the Administrator, all records required under this section.

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